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78.9	79.0	79.0	79.0	79.0	79.1	79.1	79.3	79.3	79.4	79.4	79.4	79.4	79.4	79.4	79.4	79.4	79.4	79.4	79.4	79.4
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Aaw46872 Bacillus	Aaw46726 Native ve	Aaw80321 Bacillus	Aaw19515 B. cereus	Aar91244 B. thurin	-	Add43705 Bacillus		Aaw80320 Bacillus	Aay24963 Bacillus	Aay24972 Bacillus	Aay24971 Bacillus	Aaw46869 Bacillus		_	Aaw46732 Maize opt	Aaw19521 B. cereus	Aar91261 VIP3A(a)	Aea61740 Bacillus	Aea62843 Bacillus	Adn61600 VIP3A tox

## ALIGNMENTS

RESULT 1 ADD43701 N-PSDB; 22-MAR-2002; 06-NOV-2002; Arnaut 20-MAR-2003; 2003WO-EP003068 WO2003080656-A1. Bacillus thuringiensis. Bacillus thuringiensis insecticidal protein ISP3-1099E ADD43701 standard; protein; 787 (FARB ) BAYER BIOSCIENCE NV. 02-OCT-2003. Insecticidal; plant insect 15-JAN-2004 ADD43701; 2003-876903/81. DB; ADD43700. ຸດ Boets 2002US-0366276P 2002US-0423999P (first entry) Þ De Rudder pest; pesticide ζ, A Vanneste ŝ Van Rie

Sequence 787

The present invention relates to Bacillus thuringiensis insecticidal proteins (ADD43701, ADD43703 and ADD43705) and their coding sequences (ADD43700, ADD43702 and ADD43704). The insecticidal proteins are insecticidal against Helicoverpa zea, Heliothis virescens, Ostrinia nubilalis, Spodoptera frugiperda, Agrotis ipsilon, Pectinophora gossypiella, Scirphophaga incertulans, Cnaphalocrocis medinalis, Sesamia inferens, Chilo partellus and Auticareia gemmatalis. The proteins are useful for controlling plant insect pests, and for increasing resistance to insect damage compared to control plants.

New insecticidal proteins, useful for controlling plant insect pests, for increasing resistance to insect damage compared to control plants.

and

Claim 3; SEQ ID NO 2; 81pp; English.

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RESULT 2
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                                                                                                                                                                                      SIK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEIRPSEELLSPELIKSDAWVGSQGTWISGNSLNINSNVNGTFRQNLSLESYSTYSMNFN
                                                                                                                                                                                                                                                                                                                                                                                                                                                 PIMNEHLNKEKEEFRVNILPTLSNTFSNPNYEKARGSDKDAKIIMEAKPGYALVGFEISK 363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LSDVMKQNYALGLQIEYLSKQLKEISDKLDVINVNVLINSTLTEITPAYQRIKYVNEKFE 183
                                                                                                                     standard;
                                                                                                                                                                                                              SIK 786
                                                                                                                                                                                                                                                           VNGFGKVTIRNSREVVFERSYLQFSSKYISEKFTTTTNNTGLYVELSRASSRGVINFGDF
                                                                                                                                                                                                                                                                                                                                                           AAIYLKDEKNGDYIYEETNNELEDFQAVTKRFIIGTDSSRVHLIFTSQNGEEAFGGNFII
                                                                                                                                                                                                                                                                                                                                                                                                             EGENLEPWKANNKNAYVDHTGGVNGTKVLYVHEDGEFSQFIGDKLKLKTEYVIQYIVKGK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GRSALKTASELIAKENVKTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLADIDYT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GRSALKTASELIAKENLKTSGSEVGNVYNELIVLTALQAKAFLTLTTCRKLLGLADIDYT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ALTSATETNLKTKQDSSHTDILDELTELTELAKSVTKNDVDGFEFYLNTFHDVMIGNNLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LDGVNGSLNDLLAQGNLDTELSKEILKIANEQNKVLNDVNTKLDAINLMLNTYLPKITSM 123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NNKLSVKALPSFIDYFNGIYGFATGIKDIMMIFKTNTGGDLTLDEILKNQQLLNEISGK
                                                                                                                                                                                                                                                                                                                                            AVIYLKDEKNGDYIYEEINNELEDFQTVTKRFITGTDSSGVHLIFTSQNGEEAFGGNFII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DSIAVLKVYQAKLKHNYQIDKDSLSEIVYGDIDKLLCPDQSEQMYYTNKIAFPNEVVITK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ELTFATETTLKVKEDGSPADILDELTELTELAKSVTKNEVDGFEFYLNTFHDVMVGNNLF
                                                                                                                                                                                                                                                                                                                                                                                                EGENLEPWKANNKNAYIDHTGGVKGTKVLYVHKDGEFSQFIGYKLKSKTEYVIQYIVKGK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LSDVMKQNYALSLQIEYLSKQLQEISDKLDIINVNVLINSTLTEITPAYQRIKYVNEKFE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LDGVNGSLNDLIAQGNLNTELSKEILKIANEQNQVLNDVNNKLDAINTMLHIYLPKITSM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                88.3%; Score 3527; I larity 87.5%; Pred. No. 3.76 Conservative 43; Mismatches
         insecticide; transgenic; delta-endotoxin; Vip3B
                                                                                                                                                                                      787
                                                                                                                   protein;
                                                               entry
                                     polypeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3.7e-208;
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                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                               that is active against insects. The toxins are useful for controlling consists, where the insect is a lepidopteran insect selected from Ostrinia constability. Buropean corn borrer), Plutella xylostella (diamondback moth), Spodoptera frugiperda (fall armyworm), Agrotis ipsilon (black cutworm), CC Helicoverpa zea (corn earworm), Helichis virescens (tobacco budworm), S. CC exigua (beet armyworm), Helichis virescens (tobacco budworm), CC Helicoverpa armigera (cotton bollworm), Manduca sexta (tobacco hornworm), CC Trichoplusia ni (cabbage looper), Pectinophora gossypiella (pink CC polymucleotides encoding the toxins are useful to produce an insect-resistant transgenic plant. The toxins are useful in combination with Bt delta-endotoxins to increase pest target range. The present sequence CC represents a B. thuringiensis Vip3B toxin
                                                                                                                                    δ
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Best Local Sin
Matches 687;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Novel pesticidal toxin, designated Vip3 toxins from Bacillus thuringiensis, useful for controlling insects, e.g., lepidopteran is highly active against a wide range of insect pests.
                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 787
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Miles
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (SYGN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     30-MAR-2001; 2001US-0280025P
04-DEC-2001; 2001US-0336657P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 4; Page 56-60; 82pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-APR-2002; 2002WO-US010264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bacillus thuringiensis
           361
                                                                                      300
                                                                                                                                                                    181
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DB; ABV74977.
                                                                                                                                         240
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                                                                                                                                                                                                                                                                                                                                          1 MQKNN-KLSVKALPSFIDYFNGIYGFATGIKDIMNMIFKTNTGGDLTLDEILKNQQLLNE
                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                        EISKDSIAVLKVYQAKLKHNYQIDKDSLSEIVYGDIDKLLCPDQSEQMYYTNKIAFPNEY
                                                         IDYTPIMNEHLNKEKEEFRVNILPTLSNTFSNPNYEKARGSDKDAKIIMEAKPGYALVGF
                                                                                                            NNLFGRSALKTASELIAKENLKTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLAD
                                                                                                                                                                 EKFEDLTFATETTLKVKKOSSFADILDELTELAKSVTKODVDGFEFYLNTFHDVAVG
                                                                                                                                                                                                                                   ITSMLSDVMKQNYALGLQIEYLSKQLKEISDKLDVINVNVLINSTLTEITPAYQRIKYVN
                                                                                                                                                                                                                                                                                                                          MNKNNTKLNARALPSFIDYFNGIYGFATGIKDIMNMIFKTDTGGNLTLDEILKNQQLLNE
         EMSNDSITVLKAYQAKLKQDYQVDKDSLSEIVYGDMDKLLCPDQSEQIYYTNNIAFPNEY
                                                                                                                                                                                EKFEALTSATETNLKTKQDSSHTDILDELTELTELAKSVTKNDVDGFEFYLNTFHDVMIG
                                                                                                                                                                                                                    ITSMINDVMKQNYALSIQIEYLSKQLQEISDKLDVINVNVLINSTLTEITPAYQRMKYVN
                                                                                                                                                                                                                                                                        ISGKLDGVNGSLNDLIAQGNLNTELSKEILKIANEQNQVLNDVNNKLNAINTMLHIYLPK
                                                                                                                                                                                                                                                                                      ISGKLDGVNGSLNDLLAQGNLDTELSKEILKIANEQNKVLNDVNTKLDAINLMLNTYLPK
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                                                                                                                                                                                                                                                                                                                                                                                 Conservative
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                                                                                                                                                                                                                                                                                                                                                                                87.8%; Score 3507.5; DB 6; 87.3%; Pred. No. 5.9e-207; tive 46; Mismatches 53;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Shen
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Indels Length

Gaps

420 419 360 359 300 299

240 239 180 179

120

60 59

787; 1,

insect,

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ADMORPTS
ADMORPTS
ADMORPTS
ADMORPTS
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The invention relates to a novel isolated Vip3 toxin that is active against insects. The toxin acts as a protease inhibitor. The Vip3 toxin, hybrid toxin and nucleic acid molecules are useful for controlling lepidopteron insects such as tobacco budworm, sunflower head moth or beet armyworm, for producing an insect-resistant transgenic plant, and protecting a maize plant against at least one insect pest. The present sequence represents native B. thuringiensis vip3B.
                                                                                                                                                                                                                            New Vip3 toxin encoded by a nucleic acid from Bacillus thuringiensis, useful for controlling lepidopteran insects such as tobacco budworm, sunflower head moth or best armyworm, or for producing an insectresistant transgenic plant.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             vip3c; toxin; p
sunflower head
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DB; ADNO8757.
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d moth; beet
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                                                                        or beet
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RESULT 4
AAY59284
ID AAY5
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AC AAY5
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DE SUP

standard;

protein;

787

AAY59284 st; AAY59284; 18-APR-2000 SUP toxin f;

from

B. thuringiensis

strain

KB59A4-6

(first

entry)

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Matches 687
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                                                                                                                                                                    NGNLEGENLEPWKANNKNAYVDHTGGVNGTKVLYVHEDGEFSQFIGDKLKLKTEYVIQYI
                                                                                                                                                                                                                                                      VITKITPTKKMNSLRYEATANFYDSSTGDIDLNKTKVESSEAEYSTLSASTDGVYMPLGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ISGKLDGVNGSLNDLLAQGNLDTELSKEILKIANEQNKVLNDVNTKLDAINLMLNTYLPK
                                                                                           NFIISEIRPSEELLSPELIKSDAWVGSQGTWISGNSLNINSNVNGTFRQNLSLESYSTYS
                                                                                                                                     VKGKAAIYLKDEKNGDYIYEETINNELEDFQAVTKRFITGTDSSRVHLIFTSQNGEEAFGG
                                                                                                                                                                                                            ISETFLTPINGFGLVVDENSRLVTLTCKSYLRETLLATDLSNKETKLIVPPNGFISNIVE
                                                                                                                                                                                                                                                                    VITKIAFTKKLNSLRYEVTANFYDSSTGDIDLNKKKIESSEAEFSMLNANNDGVYMPIGT
                                                                                                                                                                                                                                                                                                           BISKDSIAVLKVYQAKLKHNYQIDKDSLSEIVYGDIDKLLCPDQSEQMYYTNKIAFPNEY
                                                                                                                                                                                                                                                                                                                                                    IDYTPIMVEHLNKEKEEFRVNILPTLSNTFSNPNYEKARGSDKDAKIIMEAKPGYALVGF
                                                                                                                                                                                                                                                                                                                                                                                  NNLFGRSALKTASELIAKENLKTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLAD
                                                                                                                                                                                                                                                                                                                                                                                                                                         EKFEALTSATETNLKTKQDSSHTDILDELTELTELAKSVTKNDVDGFEFYLNTFHDVMIG
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                  FGDFSIK 786
                                       MNFNVNGFAKVTVRNSREVLFEKNYPQLSPKDISEKPTTAANNTGLYVELSRFTSGGAIN
                                                                                                                          VKGKASILLKDEKNGDCIYEDTNNGLEDFQTITKSFITGTDSSGVHLIFNSQNGDEAFGE
                                                                                                                                                                                                                                                                                                 EMSNDSITVLKAYQAKLKQDYQVDKDSLSEIVYGDMDKLLCPDQSEQIYYTNNIAFPNEY
                                                                                                                                                                                                                                                                                                                                         IDYTFIMNEHLDKEKEEFRVNILPTLSNTFSNPNYAKAKGSNEDAKIIVEAKPGYALVGF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ITSMLNDVMKQNYALSLQIEYLSKQLQEISDKLDVINVNVLINSTLTEITPAYQRMKYVN
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nilarity 87.3%;
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Pred. No. 5.9e-207;
16; Mismatches 53;
                                                                                 SGNSLTINSNVNGTFRONLSLESYSTYS
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                              The invention relates to novel B. thuringiensis isolates, and genes encoding pesticidal toxins which are toxic to non-mammalian pests. The genes are useful in the control of non-mammalian pests and especially plant pests (e.g. lepidopterans and/or cleopterans). The polymucleotic are useful for transforming plants for controlling plant pests; for designing primers and probes useful for the identification and characterization of genes which encode pesticidal toxins. The present sequence represents a B.t. SUP toxin
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Loewer D, Dullum
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lepidopterans;
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IAFTKKLNSLRYEVTANFYDSSTGDIDLNKKKIESSEAEFSMLNANNDGVYMPIGTISET
                                                                                     LSDVMKQNYALGLQIEYLSKQLKEISDKLDVINVNVLINSTLTEITPAYQRIKYVNEKFE
                                                                                                                                                                                                                                                                                                    LDGVNGSLNDLLAQGNLDTELSKEILKIANEQNKVLNDVNTKLDAINLMLNTYLPKITSM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           thuringiensis; toxin; erans; cleopterans.
                                                                                                                                                        GRSALKTASELIAKENLKTSGSEVGNVYNFLIVLTALQAKAFLTLTTTCRKLLGLADIDYT
                                                                                                                                                                                                   ALTSATETNLKTKQDSSHTDILDELTELTELAKSVTKNDVDGFEFYLNTFHDVMIGNNLF
                                                                                                                                                                                                                                                                                                                                    NTKLNARALPSFIDYFNGIYGFATGIKDIMMMIFKTDTGGNLTLDEILKNQQLLNEISGK
                                                                                                                                                                                                                                                                                                                                                     NNKLSVKALFSFIDYFNGIYGFATGIKDIMMMIFKTNTGGDLTLDBILKNQQLLNBISGK
                                      DSMTVLKVYEAKLKQNYQVDKDSLSEVIYSDMDKLLCPDQSEQIYYTNNIVFPNEYVITK
                                                          DSIAVLKVYQAKLKHNYQIDKDSLSBIVYGDIDKLLCPDQSBQNYYTNKIAFPNBYVITK
                                                                                                                                      GRSALKTASELIAKENVKTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLADIDYT
                                                                                                                                                                                     ELTFATETTLKVKKDSSPADILDELTELTELAKSVTKNDVDGFEFYLNTFHDVMVGNNLF
                                                                                                                                                                                                                                                                                      LDGVNGSLNDLIAQGNLNTELSKEILKIANEQNQVLNDVNNKLDAINTMLHIYLPKITSM
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Page 100-103; 104pp; English.
                                                                                                                                                                                                                                                                                                                                                                                        Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 eotides encoding pesticidally plants for controlling pests.
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lum CJ,
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87.1%;
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Muller-Cohn
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                                                                                                                                                                                                                                                                                                                                                                                     Score 3505; DB 3;
Pred. No. 8.4e-207;
5; Mismatches 56;
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Stamp L,
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particularly producing plants that express such gene in order to effectively control various insects e.g. boll weevil, black cutworm etc. The invention is also useful for conferring resistance in plants against

The

present sequence

18

in plants Bacillus

The present invention provides an isolated polynucleotide fr thuringiensis (B.t.) strain KB59A4-6 that encodes an active SUP toxin protein. The invention is useful in plant genetic

e from Bacillus lve pesticidal ic engineering

Claim

<u>ب</u>

SEQ

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NO 54;

51pp; English

delta endotoxins ng, particularly

coleopteran

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RESULT 5
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XX ADGB
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XX Baci
XX PS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                             Feitelson JS, Sch
Loewer D, Dullum
                                                                                                                                                                                                                                                             New polynucleotide from Bacillus subtilis, which encodes de or pesticide proteins, useful in plant genetic engineering, for producing plants that are resistant to lepidopteran or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    07-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                         Finstad-Lee
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Muller-Cohn J,
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al Similarity 87.1%;
682; Conservative 4
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                                                                                                                     SIK 786
                                                                                                                                                  VNGFGKVTIRNSREVVFERSYLQFSSKYISEKFTTTTNNTGLYVBLSRASSRGVINFGDF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEIRTSEELLSPELIMSDAWVGSQGTWISGNSLTINSNVNGTFRQNLPLESYSTYSMNFT
                                                                                                                                                                                          SBIRPSEELLSPELIKSDAWVGSQGTWISGNSLNINSNVNGTFRQNLSLESYSTYSMNFN 723
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                                                                                                                                                                                                                                                                                                                                           IAFTKKLNSLRYEVTANFYDSSTGDIDLNKKKIESSEAEFSMLNANNDGVYMPIGTISET
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                                                                                                   Six
                                                                                                                                         VNGFGKVTVRNSREVLFEKSYPQLSPKDISEKPTTAANNTGLYVELSRSTSGGAINFRDF
                                                                                                                                                                                                                      ASIYLKDKKNENSIYEEINNDLEGFQTVTKRFITGTDSSGIHLIFTSQNGEGAFGGNFII
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                                                                                                                                                                                                                                                            EGENLEPWIANNKNAYVDHTGGINGTKVLYVHKDGEFSQFVGGKLKSKTEYVIQYIVKGK
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          (first entry)
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Pred. No. 8.4e-207;
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IDYTPIMVEHLNKEKEEFRVNILPTLSNTFSNPNYEKARGSDKDAKIIMEAKPGYALVGF

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180 239 240

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NNLFGRSALKTASELI AKENLKTSGSEVGNYYNFLI VLTALQAKAFLTLTTCRKLLGLAD

EKFEALTSATETNLKTKQDSSHTDILDELTELTELAKSVTKNDVDGFEFYLNTFHDVMIG

EKFEELTFATETSSKVKKDGSPADILDELTELTELAKSVTKNDVDGFEFYLNTFHDVMVG

ITSMLSDVMKQNYALGLQIEYLSKQLKEISDKLDVINVNVLINSTLTBITPAYQRIKYVN

ITSMLSDVMKQNYALSLQIBYLSKQLQBISDKLDIINVNVLINSTLTBITPAYQRIKYVN

ISGKLDGVNGSLNDLIAQGNLNTELSKBILKIANEQNQVLNDVNNKLDAINTMLRVYLPK

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Best Local Sin
Matches 680;
                                                                                                                                                                                                              The invention relates to an isolated Vip3 toxin from B. thuringiensis that is active against insects. The toxins are useful for controlling insects, where the insect is a lepidopteran insect selected from Ostrinia nubilalis (European corn borer), Plutella xylostella (diamondback moth), Spodoptera frugiperda (fall armyworm), Agrotis ipsilon (black cutworm), Helicoverpa zea (corn earworm), Heliothis virescens (tobacco budworm), S. exigua (beet armyworm), Helicoverpa punctigera (native budworm), S. exigua (beet armyworm), Helicoverpa punctigera (tobacco budworm), S. exigua armigera (cotton bollworm), Manduca sexta (tobacco hornworm), Trichoplusia ni (cabbage looper), Pectinophora gosspiella (pink bollworm), and Cochylis hospes (banded sunflower moth). The polynucleotides encoding the toxins are useful to produce an insectresistant transgenic plant. The toxins are useful in combination with Bt delta-endotoxins to increase pest target range. The present sequence represents a B. thuringiensis Vip3A-B hybrid toxin
                                                                                                                                                                                   Sequence 787
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Example
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Novel pesticidal toxin, designated Vip3 toxins from Bacillus thuringiensis, useful for controlling insects, e.g., lepidopteran is highly active against a wide range of insect pests.
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04-DEC-2001; 2001US-0336657P.
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DB; ABV74980.
               60
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                                                                                                                                     Similarity
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ISGKLDGVNGSLNDLLAQGNLDTELSKEILKIANEQNKVLNDVNTKLDAINLMLNTYLPK
                                               MKKNTKLSTRALPSFIDYFNGIYGFATGIKDIMMMIFKTDTGGDLTLDEILKNQQLLND
                                                                 MQKNN-KLSVKALPSFIDYFNGIYGFATGIKDIMNMIFKTNTGGDLTLDBILKNQQLLNB
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Page 73-76; 82pp; English.
                                                                                                                  87.6%;
ilarity 86.4%;
Conservative 4
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                                                                                                                  49;
                                                                                                                Score 3499.5; DB 6;
Pred. No. 1.8e-206;
49; Mismatches 57;
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RESULT 7
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The present invention relates to Bacillus thuringiensis insecticidal proteins (ADD43701, ADD43703 and ADD43705) and their coding sequences (ADD43702, ADD43702 and ADD43704). The insecticidal proteins are insecticidal against Helicoverpa zea, Heliothis virescens, Ostrinia nubilalis, Spodoptera frugiperda, Agrotis ipsilon, Pectinophora
                                                                                                                                                                                                                                                                                                                                                                                                                                              22-MAR-2002;
06-NOV-2002;
                                                                                                                                                    Claim 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20-MAR-2003; 2003WO-EP003068
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bacillus thuringiensis insecticidal protein
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                                                                                                                                                                                            insecticidal proteins, useful for controlling plant insect pests, increasing resistance to insect damage compared to control plants.
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||||| |||: |||||||||||:|
VITKIDFTKKMKTLRYEVTANFYDSSTGEIDLNKKKVESSEAEYRTLSANDDGVYMPLGV
                                                                                                                                                      SEQ ID NO
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Best Local S
Matches 634
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                     FSIK 786
                                               ASGPFNVTVRNSREVLFERSNLMSSTSHISGTFKTESNNTGLYVELSRRSGGGGHISFEN
                                                             VNGFGKVTIRNSREVVFERSYLQFSSKYISEKFTTTTNNTGLYVELSRAS-SRGVINFGD
                                                                                             PSIHLKDENTGYIHYEDTNNNLKDYQTITKRFTTGTDLKGVYLILKSQNGDEAWGDKFTI
                                                                                                                                                            AAIYLKDEKNGDYIYBETNNELEDFQAVTKRFITGTDSSRVHLIFTSQNGEBAFGGNFII
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Best Local S
Matches 634
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     New Vip3 toxin encoded by a nucleic acid from Bacillus thuringiensis, useful for controlling lepidopteran insects such as tobacco budworm, sunflower head moth or beet armyworm, or for producing an insect-
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                      DSIAVLKVYQAKLKHNYQIDKDSLSEIVYGDIDKLLCPDQSEQMYYTINKIAFPNEYVITK
                                                                     PIMNEHLNKEKEEFRVNILPTLSNTFSNPNYEKARGSDKDAKIIMEAKPGYALVGFEISK 363
                                                                                                                                           GRSALKTASELIAKENLKTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLADIDYT
                                                                                                                                                                                                                                        ALTSATETNLKTKQDSSHTDILDELTELTELAKSVTKNDVDGFEFYLNTFHDVMIGNNLF
                                                                                                                                                                                                                                                                                                              LSDVMKQNYALGIQIEYLSKQLKEISDKLDVINVNVLINSTLTEITPAYQRIKYVNEKFE
                                                                                                                                                                                                                                                                                                                                                                                     LDGVNGSLADLLAQGNLDTELSKEILKIANEQNKVLNDVNTKLDAINLMLNTYLPKITSM 123
                                                                                                                                                                                                                                                                                                                                                                                                                                       NTKLNARALPSFIDYFNGIYGFATGIKDIMMIFKTDTGGNLTLDEILKNQQLLNEISGK
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   DSITVLKVYBAKLKONYOVDKDSLSEVIYGDTDKLFCPDOSEQIYYTNNIVFPNBYVITK
                                                                                                                                                                                                                     ELTFATETTLKVKKDSSPADILDELTELTELAKSVTKNDVDGFEFYLNTFHDVMVGNNLF
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Pred. No. 1e-190;
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New Vip3 toxin encoded by a nucleic acid from Bacillus thuringiensis, useful for controlling lepidopteran insects such as tobacco budworm, sunflower head moth or beet armyworm, or for producing an insectresistant transgenic plant.
                                                                                                                          Shen
                                                                                                                                                                                   06-MAR-2002;
                                                                                                                                                                                                                                                                                                                                                                      Bacillus
                                                                                                                                                                                                                                                                                                                                                                                                   vip3c; toxin; ]
sunflower head
                                                                                                                                                                                                                 20-FEB-2003; 2003WO-US004735
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                                                                                                                                                      (SYGN)
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)B; ADN08752, ADN08754.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          standard;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAIYLKDEKNGDYIYBETNNELEDFQAVTKRFITGTDSSRVHLIFTSQNGEEAFGGNFII
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l moth; beet armyworm; insect-resistance; r
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/label= Glu,
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The invention relates to a against insects. The toxin

novel isolated Vip3 toxin that is acts as a protease inhibitor. The

active Vip3 to

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Best Local Similarity 80.7
Matches 636; Conservative
            ADN08762
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             hybrid toxin and nucleic acid molecules are useful for controlling lepidopteron insects such as tobacco budworm, sunflower head moth or be armyworm, for producing an insect-resistant transgenic plant, and protecting a maize plant against at least one insect pest. The present sequence represents native B. thuringiensis vip3c.
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                                                                                                                               ISFTASGPFNVTVRNSRXVLFERSNLMSSTSHISGTFKTESNNTGLYVELSRRSGGGGHI
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Pred. No. 1.9e-190;
4; Mismatches 86;
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Best Local Sim:
Matches 634;
                                                                                                                                                                                                                                                                                                                                                                                                               The invention relates to a novel isolated Vip3 toxin that is active against insects. The toxin acts as a protease inhibitor. The Vip3 toxin hybrid toxin and nucleic acid molecules are useful for controlling lepidopteron insects such as tobacco budworm, sunflower head moth or be armyworm, for producing an insect-resistant transgenic plant, and protecting a maize plant against at least one insect pest. The present sequence represents vip3-C, a B. thuringiensis vip3-vip3C fusion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    New Vip3 toxin encoded by a nucleic acid from Bacillus thuringiensis, useful for controlling lepidopteran insects such as tobacco budworm, sunflower head moth or beet armyworm, or for producing an insectresistant transgenic plant.
                                                                                                                                                                                                                                                                                                                                                                            Sequence 788
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 12;
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wer head moth; beet armyworm; insect-resistance; maize; vip3A-C.
                                                                                                                                                                                                                                                                                                                                     Similarity
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                                                  NNLFGRSALKTASELIAKENLKTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLAD
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IDYTSIMNEHLNKEKEEFRVNILPTLSNTFSNPNYAKVKGSDEDAKMIVEAKPGHALIGF
                IDYTPIMMEHLNKEKEEFRVNILPTLSNTFSNPNYEKARGSDKDAKIIMEAKPGYALVGF
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Pred. No. 3.3e
64; Mismatches
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3.3e-190;
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Heliothis
The present sequence represents a Bacillus thuringiensis toxin which is active against lepidopteran pests. The toxin isolates can be used for the control of lepidopteran pests such as Agrotis ipsilon (black cutworm), Heliothis virescens and Helicoverpa zea. PCR primers and probes can be
                                                                                                      Claim 42; Page
                                                                                                                                            encoding toxing Black cutworm.
                                                                                                                                                                                                                                                                                                                                                                     01-JUL-1996;
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VKGKPSIHLKDENTGYIHYEDTNNNLEDYQTINKRFTTGTDLKGVYLILKSQNGDEAWGD
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                                                                                                                                                                             NFIISEIRPSEELLSPELIKSDAWVGSQGTWISGNSLNINSNVNGTFRQNLSLESYSTYS
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Pred. No. 5.7e
69; Mismatches
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No. 5.7e-187;
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09-SEP-1999 AAY24965 AAY24965

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Best Local S
Matches 624
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 1;
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Muller-Cohn
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VITKIAFTKKLNSLRYEVTANFYDSSTGDIDLNKKKIESSEAEFSMLNANNDGVYMPIGT
                                                   EMSNDSITVLKVYEAKLKQNYQVDKDSLSEVIYGDTDKLLCPDQSEQIYYTNNIVFPNEY
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Pred. No. 5.7e-187;
9; Mismatches 92;
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                               active against lepidopteran pests. The toxin isolates can be used for control of lepidopteran pests such as Agrotis ipsilon (black cutworm), Heliothis virescens and Helicoverpa zea. PCR primers and probes can be derived from the polynucleotide encoding the toxin and used for the
                                                                                                                         New isolated Bacillus encoding toxins which Black cutworm.
 Sequence
                                                                                                    Claim 42; Page 122-126; 183pp;
                                                                                                                                                                                                                                                      01-JUL-1996;
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                                                                                                                                                                                                                                                                                                                                            Bacillus thuringiensis.
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                       amplification and
                                                                            The present sequence represents a Bacillus thuringiensis toxin which is
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                                                                                                                 standard;
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                                                                                                                                                                                                                                            MNFNVNGFGKVTIRNSREVVFERSYLOFSSKYISEKFTTTTNNTGLYVELSRASS---RG
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0; Mismatches 92;
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                                                                                                                                                                                                                      -GAKDVSEMFTTKFEKDNFYIELSQGNNLYGGP
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 1;
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                        ISETFLTPINGFGLVVDENSRLVTLTCKSYLRETLLATDLSNKETKLIVPPNGFISNIVE
                                                                 VITKIAPTKKLNSLRYEVTANFYDSSTGDIDLNKKKIESSEAEFSMLNANNDGVYMPIGT
                                                                                                             EISKDSIAVLKVYQAKLKHNYQIDKDSLSEIVYGDIDKLLCPDQSEQMYYTNKIAFPNEY
                                                                                                                                                                                           NNLFGRSALKTASELIAKENLKTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLAD
                                                                                                                                                                                                                                           EKFEALTSATETNLKTKQDSSHTDILDELTELTELAKSVTKNDVDGFEFYLNTFHDVMIG
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         ISETFLTPINGFGLQADGNSRLITLTCKSYLRELLLATDLSNKETKLIVPPSGFISNIVE
                                                                                                   EMSNDSITVLKVYEAKLKONYOVDKDSLSEVIYGDTDKLLCPDQSEQIYYTNNIVPPNEY
                                                                                                                                                           IDYTPIMVEHLNKEKEEFRVNILPTLSNTFSNPNYEKARGSDKDAKIIMEAKPGYALVGF
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                                                                                                                                                                                                                                                                                                                                                                                   MININTKLSARALPSFIDYFNGIYGFATGIKDIMMMIFKTDTGGNLTLDEILKNQQLLNE
                                                     VITKIDFTKKMKTLRYEVTANFYDSSTGEIDLNKKKVESSEAEYRTLSANDDGVYMPLGV
                                                                                                                                               IDYTSIMNEHLNKEKEEFRVNILPTLSNTFSNPNYAKVKGSDEDAKMIVEAKPGYALVGF
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Pred. No. 7.5e-187;
0; Mismatches 92;
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  Query Match
Best Local Similarity
Matches 623; Conserv
                                                                                                                               The present sequence represents a Bacillus thuringiensis toxin which i active against lepidopteran pests. The toxin isolates can be used for control of lepidopteran pests such as Agrotis ipsilon (black cutworm), Heliothis virescens and Helicoverpa zea. PCR primers and probes can be derived from the polynucleotide encoding the toxin and used for the amplification and detection of other toxin-encoding sequences
                                                                                              Sequence 789
                                                                                                                                                                                                                                                                                                                                                               New isolated Bacillus
encoding toxins which
                                                                                                                                                                                                                                                                                               Claim 42; Page 139-142; 183pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-JUL-1996;
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                                                           VYFSVSGDANVRIRNSREVLFEKRYMS-GAKDVSEMFTTKFEKDNFYIELSQGNNLYGGP
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completed: May 15, me : 192 secs 2006, 20:39:13

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alpha-toxin - Clos
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reticulocyte-bind;
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179.5       4.5       1247       2       E71616       hypothetical prote         179       4.5       1191       2       B97116       chromosome segrega         179       4.5       2823       2       F87908       protein T22A3.8 [       1         179       4.5       2823       2       T23064       laminin alpha charat       1         179       4.5       3102       2       T3291       laminin alpha charat       1         178.5       4.5       3108       2       T18371       probable glutamate         178.5       4.5       2244       2       F90563       pypothetical prote         178.5       4.5       2344       2       F90563       pypothetical prote         178.5       4.5       2344       2       F90563       pypothetical prote         178.6       4.5       2344       2       F90563       pypothetical prote         177.5       4.4       1939       2       T18372       pypothetical prote         179.6       4.4       1939       2       T18372       pypothetical prote         179.6       4.4       1306       2       T28313       pypothetical prote	45	44	43	42	41	40	39	38	37	36	35	34	ω ω	32	31	30
1247 2 E71616 1191 2 B97116 2823 2 F87908 2823 2 T23064 3162 2 T123064 3168 2 T18371 1368 2 T18372 1939 2 T18372 1939 2 T18372 1966 2 AR1514 1726 2 C62886 1786 2 T18469	174	174.5	175	175.5	176	177	177.5	178	178	178.5	178.5	179	179	179	179	179.5
2 E71616 2 E97916 2 F87908 2 F87908 3 T233064 2 T743291 2 T18371 2 F99563 2 H71611 2 T18372 2 H73814 3 T283313 3 AEL514 4 T18469 5 T18469	4.4	4.4	4.4	4.4	4.4	4.4	4.4	5	5	5	5		.4 5	5	.4 5	<b>4</b> .5
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hypothetica chromosome protein T22 hypothetica laminin all probable glavotable se cytotoxin I repeat organishiotic ORF MSV152 conserved minternalin hypothetica hypothetica hypothetica	T18469	C82886	AF1116	AB1514	T28313	S58360	T18372	I40884	H71611	F90563	T18371	T43291	T23064	F87908	B97116	E71616
	hypothet	hypothetic	internalin	conserved membran	ORF MSV152	lantibiotic Pep5	repeat organellar	cytotoxin L - Clos	probable secreted	hypothetical prote	probable glutamate	laminin alpha	hypothetical prot	protein T22A3.8	chromosome segreg	hypothetical prot

## ALIGNMENTS

rhoptry protein - Plasmodium yoelii (fragment)
(,Species: Plasmodium yoelii
C,Date: 15-Oct-1999 #sequence\_revision 15-Oct-1999 #text\_change (
C,Accession: T28676; A45521
C,Accession: T28676; A45521
R,Sinha, K.A., Keen, J.K.; Ogun, S.A.; Holder, A.A.
MOI. Biochem. Parasitol. 76, 329-332, 1996
A,Fitle: Comparison of two members of a multigene family coding and Reference number: Z20507; MUID:97077455; PMID:8920022

for

high-molecular

mass

09-Jul-2004

A;Status: preliminary; translated from GB/EMBL/DDBJ

A; Accession: T28676

문 δ δ 밁 δ 밁 ð 밁 A;Status: preliminary
A;Molecule type: DNA
A;Residues: 2260-2401 <KEE>
A;Cross-references: UNIPARC:UPI000017B648; GB:M34281 S 밁 á Matches Query Match 6.0%; Score 238; DB 2; Length 2401; Best Local Similarity 22.0%; Pred. No. 0.0065; 324 256 268 220 150 163 116 103 NKWNDYKNIKULDOFKDTMKKIILLIIOYMNEFKGLINDAMTKLKNEGISOKFVINNQIKO 168; 69 51 16 LDYFFNSLG-----KLLIN---KVDSDGNIIEENDIDNFDLSKPKNNFKLLEGELNGVFE 102 IDYFNGIYGFATGIKDIMMMIFKTNTGGDLTLDEILKNQQL-----LNBISGKLDGV-N NKTEILTLKTKIDNVYNNIQNMETETVKSHLKNIETNNKLSETILDIIKYIYGEITNE-L AKENIKTSGSEVGNYYNFLIVLTALQAKAFL-TLTTCRKL----IGLADIDYTPIMNEHL ELTELAK----SVTKNDVDGFEFYLNT----FHDVMIG-----NNLFGRSALKTASELI ---DIIBEQKIVNDLKLELN---KXIKBITEKIEVIKKAVDLKKEIEKDNVVID-----DKLDVINVNVLINSTLTEITPAYORIKYVNEKFEALTSATETNLKTKODSSHTDILDELT KFDKSTYDEKKEGFESSLELAKNWEKKKLEIITELKKKNEETVOLDIKIRELIKOIK---YLPKIT-----YALGLQIEYLSKQLKEIS GSLNDLLAQGNLD---TELSKEILKIANEQN--KVLNDVNTKLD-----AINLMLNT 115 -ELAKEPPYQITKYIEKKNETY-NTIKSDFDKIYVGDIBQLYNEMFSVVQESNIBHIB Conservative 106; Mismatches 256; Indels 232; Gaps 149 323 209 68 255 267 219 r

90 90 90 90 90 90 90 90 90 90 90 90 90 9	Query M Best Lo Matches Qy Db Qy	RESULT 2 B42771 reticulocyte-bi C;Species: Plas C;Date: 12-Mar C;Accession: B4 R;Galinski, M. F. Cell 69, 1213-1 A;Title: A reti A;Reference num A;Accession: B4 A;Status: preli A;Molecule type A;Residues: 1-1 A;Coss-referen A;Cross-referen A;Scperimental C;Genetics: A;Gene: RBP2	B & B & B & B & B & B & B & B & B & B &
101 DVNTKLDAINLMLNTYLPKITSML-SDVMKQNYALGLQIEYLSKQLKEISDKLDVINV 157	Match  5.6%; Score 225; DB 2; Length 1252; Local Similarity 22.0%; Pred. No. 0.01; Local Similarity 22.0%; Pred. No. 0.01;  8 172; Conservative 124; Mismatches 269; Indels 218; Gaps 43;  3 KNNKLSVKALPSFIDYFNGIYGFATGIKDIMNMIFKTNTGGDLTLDEI 50	RESULT 2  B42771  reticulocyte-binding protein 2 - Plasmodium vivax (fragment)  C;Species; Plasmodium vivax  C;Date: 12-Mar-1993 #sequence_revision 12-Mar-1993 #text_change 09-Sep-1997  C;Accession: B42771  R;Galinski, M.R.; Medina, C.C.; Ingravallo, P.; Barnwell, J.W.  Cell 69, 1213-1226, 1992  A;Title: A reticulocyte-binding protein complex of Plasmodium vivax merozoites.  A;Reference number: A42771; MUID:92315338; PMID:1617731  A;Recession: B42771  A;Status: preliminary; nucleic acid sequence not shown; translation not shown  A;Residues: 1-1252 <gal- 1-1252="" <gal-="" a;experimental="" a;gene:="" a;residues:="" belem,="" c;genetics:="" merozoites="" rbp2<="" source:="" strain="" td=""><td>                                     </td></gal->	
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SULT 3	Db 1222 KGD 1224	Qy 658 GGN 660	Db 1166 SSFTLESIKKFNEIYSHIKTNIGELEQLQQTNKSEHDNVAKHKEKIVHLINRVF	QY 604 AAIYLKDEKNGDYIYEETN-NELEDFQAVTKRFITGTDSSRVHLIFTSQNGEEAF	Db 1117 -SNADKYIDVSKIFNTVLDTQKSNIVTNQHSINNVKDKLKGKLQELIDAD	QY 553 ANNKNAYVDHTGGVNGTKVLYVHEDGEFSQFIGDKLKLKTEYVIQYIVKGK 603	Db 1068 IEVNENTEMNTIESSAKEIEALY-NELKNKKTSLNEIYQTSNEVKLQEMK	QY 493 LVVDENSRLVTLTCKSYLRETLLATDLSNKETKLIVPPNGFISNIVENGNLEGENLEPWK 552	Db 1009 KKNYEDTVQDVLTLNEHFNTKQVSNHEPTNFDKSNKSSEBLTKAV-TDSKTIISKLKGVI 1067	QY 442YDSSTGDIDLNKKKIESSE-AEFSMLNANNDGVYMPIGTISETFLTPINGFG	Db 951 ETDIDSLNTALDELLKKGRTCEVSRYKLIKDTVTKBISDDTELINTIEKNVKAYLAYI	Qy 392 YGDIDKLLCPDQSEQMYYTNKIAFPNEYVITKIAPTKKLNSLRYEVTANF	Db 904TDFESLKNALKTLEGEVNALKASSDNHEHVQSKSEPVNPALSEIEKE	Qy 344 AKIIMEAKPGYALUGFEISKDSIAVLKVYQAKLKHNYQIDKDSLSEIV 391	Db 855 SELSKITCSDKSYDNIIALEKQTELQNLRNSFTQEKTNTNSDSKLEKIK	Qy 284 AFLTLTTCRKLLGLADIDYTFIMNEHLNKEKEEFRVNILPTLSNTFSNPNYEKARGSDKD 343	Db 795 ILAHSDEIDTKQKDSSKLIEMGNQIYLKVVLINQYKNKISSIKSKEEAVSVKIGNVSKKH 854	CY 254 LIAKENLKTSGSEVGNVYNFLIVLTALQAK
			 	VHLIFTSQNGEEAF 657	:  ::   GKLQELIDAD 1165	LKTEYVIQYIVKGK 603	QTSNEVKLQEMK 1116	ENGNLEGENLEPWK 552	TDSKTIISKLKGVI 1067	TISETFLTPINGFG 492	INTIEKNVKAYLAYI 1008	NSLRYEVTANF 441	SEPVNPALSEIEKE 950	WSLSEIV 391	NSDSKLEKIK 903	FSNPNYEKARGSDKD 343	EEAVSVKIGNVSKKH 854	283

hypothetical protein BB0512 - Lyme disease spirochete
C.Species: Borrelia burgdorferi (Lyme disease spirochete)
C.Date: Borrelia burgdorferi (Lyme disease spirochete)
C.Date: 13-Feb-1998 #sequence\_revision 13-Feb-1998 #text\_change 09-Jul-2004
C.Accession: G70163
R.Fraser, C.M.; Casjens, S.; Huang, W.M.; Sutton, G.G.; Clayton, R.; Lathigra, R.; White
son, D.; Peterson, J.; Kerlavage, A.R.; Quackenbush, J.; Salzberg, S.; Hanson, M.; Vugt,
son, D.; Peterson, J.; Kerlavage, A.R.; Quackenbush, J.; Salzberg, S.; Hanson, M.; Vugt,
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son, D.; Lathigra, R.; Lathigra,

Query Match 5.2%; Score 208.5; DB 2; Length 2166; Best Local Similarity 21.5%; Pred. No. 0.12; Matches 184; Conservative 141; Mismatches 330; Indels 201; Gaps 1023 SNYRGYSENISSKLENEIMH-----BIENLSRRL---TDRIDSLSKG--MDENLQKLKE 1071 111 LMLNTYLPKITSMLSDVMKQNYALGLQIEYLSKQLKEISDKLDVINVNVLINSTLTEITP 170 969 NNSEBFYKEVDSLLQDKRTDIASF--QANIDITLDSLNVKF-NDINK---EINGKYNEVI 1022 910 KELKFSIESTESYYLEKIDEFRNQGAIYSDEL-LQDIMMHFNKETRELEENLSKKFAAVL 968 52 KN-QQLLNEISGKLDGVNGSLNDLILAQGNLDTELSKEILKIANEQNKVLNDVNTKLDAIN 110 3 KNNKLSVKALPSF----IDYF---NGIYGFATGIKDIMNMIFKTNTGGDLTLDE----IL 45;

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hypothetical protein UU293 [imported] - Ureaplasma urealyticum C;Species: Ureaplasma urealyticum C;Species: Ureaplasma urealyticum C;Date: 18-Aug-2000 #sequence_revision 20-Aug-2000 #text_change 20-Aug-2000 R;Glass, J.I.; Lefkowitz, E.J.; Glass, J.S.; Heiner, C.R.; Chen, E.Y submitted to GenBank, February 2000 A;Description: The complete sequence of Ureaplasma urealyticum: Alternative presence number: A82870 A;Accession: F82909 A;Status: preliminary A;Accession: F82909 A;Status: preliminary A;Coss-references: UNIPARC:UPI00000ClC06; GB:AE002127; GB:AF222894; A;Cross-references: UNIPARC:UPI00000ClC06; GB:AE002127; GB:AF222894; A;Genetics: A;Genetics: A;Genetics: SGC3
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                     Conservative
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                 5.2%; Score 206; DE 20.9%; Pred. No. 0.09 tive 141; Mismatches
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                   Indels
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                   248;
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                 Gaps
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                                                                          RESULT 5
T28679

C;Species: Staphylococcus aureus
C;Species: Staphylococcus aureus
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change
C;Accession: T28679
R;Josefsson, E.; McCrea, K.; Ni Eidhin, D.; O'Connell, D.; Microbiology 144, 3387-3395, 1998
A;Title: Three new members of the serine-aspartate repeat A;Reference number: Z20510; MUID:99098700; PMID:9884231
A;Accession: T28679
A;Status: preliminary; translated from GB/EMBL/DDBJ
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;Cross-references: UNIPROT:O86488;
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                                                                                                                                                                                                     VWEDTNKNGIQDQDEKGISGVTVTLKDENGNVLKTVTTDADGKYKFTDLDNGNYKVEFTT
                                                                                                                                                                                                                    IYESTNN---ELEDFQAVTKRFITGTDSSR--VHLIFTSQNGEEAF----GGNFIISEIR
                                                                                                                                                                                                                                                        NEELDSNG---LSSVITVNGKDNLSADLG
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A;Cross references: UNIPROT:Q26223; UNIPARC:UPI0000080871; E R;Keen, J.; Holder, A.; Playfair, J.; Lockyer, M.; Lewis, A. Mol. Blochem. Parasitol. 42, 241-246, 1990
A;Title: Identification of the gene for a Plasmodium yoelii A;Reference number: A45521; MUID:91101660; PMID:2270106
A;Accession: C45521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        R;Keen, J.; Sinha, K.; Brown, K.; Holder, A. Mol. Biochem. Parasitol. 65, 171-177, 1994
A;Title: A gene coding for a high molecular mass rhoptry A;Reference number: Z20508, MUID:95021522; PMID:7935623
A;Accession: T28677
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Molecule type: DNA
A;Residues: 2131-2269 <KE2>
A;Cross-references: UNIPARC:UPI000017B646;
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IKSDAWVGSQGTWISGNSLNINSNVNGTFRQNLSLESY-----
                                       ESLNTKVFEKV-KENVTNLNKIKEKLKHYDF
                                                                                                                                                                Y---VHEDGEFSQFIGDKLKLKTEYVIQYIVKGKAAIYLKDEKNGDYIYEETNNEL----
                                                                                                                                                                                                              SIDKSYIEKFEQILTGKQTKLENKFTEFSLNNHEANN-NELIKYFSDLKANLGINEENML
                                                                                                                                                                                                                                                                                                                     K-NKEKELSNKIS--DYDKKREQLSEYKSKMLEIRNHYN----SQTNVDNTKEEEA--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RVNILPTLSNTFSNPNYEKARGSDKDAKI-IMEAKPGYALVGFEISKDSIAVLKVYQAKL
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ilarity 21.6%;
Conservative 13
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Pred. No. 0.29
38; Mismatches
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Qy       443 DSSTGDIDLNKKKIESSEAEFSMINANINDGVYMPIGTISETFLTPINGFGLVVDEN 498	Qy 375 KLKHNYQIDKOSLSEIVYGDIDKILCPDQSEQMYYTNKIAFPNEYVITKIAFTKKL 430	266 EVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLADIDYTPIMNEHLNKEKEEF	Qy 161 INSTLTEITPAYQRIKYVNEKFEALTSATETNLKTKQDSSHTDIL 205	Best Local Similarity 20.6%; Pred. No. 0.61;  Matches 174; Conservative 122; Mismatches 322; Indels 226; Gaps  48 DEILKNQQLLNEISGKLDGVNGSINDILAQGNIDTELSKEILKIANEQNKVLNDVN 1   :	TY; translated from GB/ENA ALLAW> UNIPROT:077384; UNIPARC:	· [ · · · · · · · · · · · · · · · · · ·	Db 625 INDDIMAVSQQIDQHINGLDDIQKKSESYVSEMKEQINKLEKVSNTEISND 675  Oy 723 NVNGFGKVTIRNSREVVFERSYLQFSSKYISEKFTTTTNNTGL 765
Qy 7 LSVKALPSFIDYFNGIYGFATGIKDIMMMIFKTNTGGDLTLDEILKNQQLLNEISGK 63	A;Gene: tcn-alpha C;Keywords: virulence factor F;1880-1899/Domain: cpl repeat homology <cp12>  Query Match Best Local Similarity 20.1%; Pred. No. 0.54; Matches 187; Conservative 126; Mismatches 296; Indels 323; Gaps 46;</cp12>	F.; Habermann, E.; von Bichel-Streiber, C. to the EMBL Data Library, July 1993 ton: Sequence analysis of Clostridium novyi alpha-toxin: a member of the fame number: \$44272 n: \$44273 type: DNA type: DNA type: DNA type: DNA type: UNIPARC:UPI000016EB32; UNIPARC:UPI000016EB33; EMBL:Z23281	A;Residues: 1-15 <how> A;Residues: UNIPARC:UPI000017CA47 A;Cross-references: UNIPARC:UPI000017CA47 R;Hofmann, F. submitted to the EMBL Data Library, March 1995 A;Reference number: S71158 A;Reference number: S71158 A;Accession: S71158 A;Rolecule type: DNA A;Residues: 1-1179, LKV',1183, 'LVTHIGE',1191-2178 <hos> A;Cross-references: UNIPARC:UPI00000BBABR: RMBL:748736: NTD:G778577: DTDN:CAARR565 1: F</hos></how>	itle: Seque eference nu ccession: S tatus: nucl olecule type esidues: 1- esidues: 1- cession: S ccession: S	RESULT 8  S55805  alpha-toxin - Clostridium novyi (ATCC 19402)  C;Species: Clostridium novyi  A;Variety: ATCC 19402  C;Date: 28-Oct-1996 #sequence revision 08-Nov-1996 #text change 09-Jul-2004  C;Accession: S55805; S71294; \$71158; S44273; I40834; S44\overline{272}  R;Hofmann, F.; Herrmann, A.; Habermann, E.; von Bichel-Streiber, C.  Mol. Gen. Genet. 247, 670-679. 1995  Mol. Gen. Genet. 247, 670-679. 1995	Db 1847 LBQLKYDYI  :   :   :   :   :   :   :   :   :	Qy 589 KLKTEYVIQYIVKGKAAIYLKDEKNGDYIYEETNNELEDFQAVTKRFITGTDSSRVH 645

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uncharacterized protein, probably surface-located [imported] - C. C;Species: Clostridium acetobutylicum
C;Species: (14-Sep-2001 #sequence_revision 14-Sep-2001 #text_change | C;Caccession: C97033
R;Nolling, J.; Breton, G.; Omelchenko, M.V.; Markarova, K.S.; Zei
; Daly, M.J.; Bennett, G.N.; Koonin, B.V.; Smith, D.R.
J. Bacteriol. 183, 4823-4838, 2001
A;Title: Genome Sequence and Comparative Analysis of the Solvent A;Reference number: A96900; MUID:21359325; PMID:21359325
A;Accession: C97033
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-1227 <KURD>
A;Cross-references: UNIPROT:097K41; UNIPARC:UPI00000CA0A1; GB:AB:C;Genetics:
C;Genetics: CAC1080
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -NTDLIAE--QISNKYVVYWNE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -QIDKDSLSEIVYGDIDKLLCP-----DQSEQMY-----YTNKIAF
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                                                                   GB:AE001437;

    Clostridium acetobutylicum

                                                                                                                                                                                                                                                                       Zeng,
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                                                                                                                                                                                                                               NIA--GNYFSKNGSPVEAT----VDAQGKYSIQLPEGSYTVEIKKDGYVTQNFVITSNG
                                                                                                                                                                                                                                                                                                                                                                                                                              VLKVYQAKLKHNYQIDKDSLSBIVYGDIDKLLCPDQSBQ-MYYTNKIAFPNBYVITKIAF
                                                                                                                                                                                                      KLK1---
                                                                                                                                                                                                                                                        NIVENGNLEGENLEPWKANNKNAYVDHTGGVN----
                                                                                                                                                                                                                                                                                                                 PIGTISETFLTPINGFGLVVDENSRLVTLTCKSYLRETLLATDLSNKETKLIVPPNGFIS
                                                                                                                                                                                                                                                                                                                                             --NVDEVKAEIEKNIQIYNALLKIDSGSATID-DYRTIGITTVIDYNISYVNIRIKGMNI
                                                                                                                                                                                                                                                                                                                                                                                                    QIEIYRALMQIN-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ---LDELTELTELAKSVTKNDV---DGFEF-----YLNTFHDVMIGNNLFGRSA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VNVLINSTLTEITPAYORI -----KYVNEKFEALTSATETN-----LKTKQDSSHTDI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NTKLDAINLMLNTYLPKITSMLSDVMKQNYALG-----LQIEYLSKQLKEISDKLDVIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VKEVKTLLDFYNHAAAGQTTLQDYKNVDPNAQVQQDDVATLSDMLKTRDCKTLKALQDKI
FGYGPETV----TFVVDSKGSYTYSVFDFSDGSSSASNKLSL
                          -GFGKVTIRNSREVVFERSYLQFSSKYISEKFTTTNNTGL
                                                                                   ELIKSDAWVGSQGTWISGNSLNINSNVNGTFRQNLSLESY------
                                                                                                                                                                        KAKTVLQNIQLVMLQYTVSGVVKDAQTGNPLQGVAIRFRIGQDNKSGDY
                                                                                                                                                                                                                                                                                     PQVSDAKRFINIILN-NMIVSSVSGTIT-----DSATGTPLQGVEIRFRIGEN----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LKTASELIAKENLKTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLADIDYTPIMN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QTRVDNTINNIDVINKIGAGDAVLSDYFNIGITDVYQDILDYVNA--DLKIQN------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IKVVI-EPIVQLSEVYVRIVTGVGTVVDYKTLGINNVNDNNIIYINAELKNKKDVKIQDI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KKTIDYINSTSN--VSKGDGSVSDYI----TIGIDGVTEINIEFVNERIKESGITITIEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VKALPSFIDYFNGIYGFATGIKDIMMIFKTNTGGD--LTLDEILKNQ--QLLNEISGKL
                                                                                                               YTDAQGKYTVSLEDGTYTAEAKKDGYINVYSVVISSEATENNIQNIVISQTL-SENQYRV
                                                                                                                                                                                                                                                                                                                                                                        TKKLNSLRYEVTANF-----YDSSTGDIDLNKKKIESS---EAEFSMLNANNDGVYM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EHLNKEKEEFRVNILPTLSNTFSNPNYEKARGSDKDAKIIMEAKPGYALVGFEISKDSIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    YKDVDDIIERVEAKISS-----YEALMRINIGEA-----VTDDFKALGLTDIN-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DGVNGSLNDLLAQ-GNLD-----TE-----LSKEILKIANEQNK------VLNDV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                          -----EYVIQYIVK-------GKAAIYL--KDEKNGDYIYEETNNELED
                                                                                                                                                                                                                                                                                                                                                                                                                                                           -DGLLLYATTDLQNKNYKTAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4.9%;
                                                        GANPLDLDSHFSGTTGSGQSINVYYQAPSAQVGDTVVSLDTDAK
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                                                                                                                                                                                                                                                                                                                                                                                                    LGKATTADYNTLGIIDVNDSILTYVNADLQGKNYV-----
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Pred. No. 0.
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                                                                                                                                          -RVHLIFTSQNGEEAFGGNFIISEIRPSEELLSP
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                                                                                                                                                                                                                                                          -GTKVLYVHEDGEFSQ--FIGDKL
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                                                                                                                                                                        -YSVNGNEVVV
                                                                                   -STYSMNFNVN
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RESULT 10
G92887
hypothetical protein UU474 [imported] c;Species: Ureaplasma urealyticum
c;Species: 18-Aug-2000 #sequence\_revision
c;Date: 18-Aug-2000 #sequence\_revision
c;Accession: G82887
R;Glass, J.I.; Lefkowitz, E.J.; Glass, J.S.; 20-Aug-2000 Ureaplasma Heiner, #text\_change urealyticum C.R.; Chen, 20-Aug-2000 В.Υ.;

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A;Description: The complete sequence of Urear A;Reference number: A82870
A;Accession: G82887
A;Status: preliminary
A;Molecule type: DNA
A;Cross-references: UNIPARC:UPI00000C1C82; GB
A;Cross-references: UNIPARC:UPI00000C1C82; GB
A;Genetics:
A;Genetics:
A;Genetics: UN474
A;Genetic code: SGC3
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NRKY-KLKTIYYLTSKT--TPLDDHNVVMIK-----
        FERSYLQFSSKYISEKFTTTTNNTGLYVELSRASSRGVINFGD 782
                                                      KNNHQTIQATFSHVSANYDNLNVKLVYEYNYRGDIKAVESDLITLKKDQNVYQINLPISV
                                                                                                         LNINSNVNGTFR-----ONLSLESYSTYSMNFNVNGFGK--VTIRNSREV-----V
                                                                                                                                                                                                              GTDSSRVHLIFTSONGEEAFGGNFIISEIRPSEELLSPELIKSDAWVGSQG-TWIS-GNS
                                                                                                                                                                                                                                                              SEDISATIVYESNDPHDIQSYTTKIK-----KVNNDWVIDFNLNNIKPQTTYHIKSIT
                                                                                                                                                                                                                                                                                                                                                                   IVAPND--STIVKYGNWNQDSI----IL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DGVYMPIGTI----SETFLTPINGFGLVVDENSRLVTLTCKSYLRETLLATDLSNKETKL 526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FNTNEHIYKNLFFKLKYVPIDDQGNENIYDASEAIYSDV-LSANNIIANKIQFSLGNLQT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QNTHEAAIPLVINNNFEINGPLASSHESLKSINASDAKKV--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LKVYQAK----LKHNYQID-----KDSLSEIVYGDIDKLLCPDQSEQMYYTNKIAF---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TVIVNNGVKYLIATLTKLTLNTPTIIKS-----ITFEQKPTCAIENIGLDKTNNIIY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RV-----NILPTLSN-TFSNPNYEKARGSDKDAKIIMEAKPGYALVGFEISK-DSIAV 368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SISEISN------RLGTALTNAQVKITLKDVDNVLLANQKAIINYGNNQKSEA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       --LMLNTYL----PKITSMLSDVM----KQNYALGLQIBYLSKQLKBISDK-LDVINVNVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IKDIMNMIF----KTNTGGDLTLD-EILKNQQLLNEIS------GKLDGVNGSL
                                                                                                                                                          IAKPNKAYTNIKIQS-----LPQVDIKTQL--PNLILHDLKATSAVLKWDSTNNG 838
                                                                                                                                                                                                                                                                                                                                                                                                                      IVPPNGFISNIVENGNLEGENLEPWKANNKNAYVDHTGGVNGTKVLYV--HEDGEFSQFI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  --PNEYVITKIAFTKKLNSLRYEVTANFYDSST----GDIDLNKKKIESSEAEFSMLNANN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        KSVTK-----TASELIAKEN--LKT
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21.0%; Pred. No. 0.3;
tive 146; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     291;
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A; Residues: 1-1054 <GLA>
A; Cross-references: UNIPARC: UPI00000C1B96;
A; Cross-references: Serovar 3; biovar 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           R;Glass, J.I.; Lefkowitz, E.J.; Glass, J.S.; Heiner, C.R.; Chen, E.Y.; Cassell, G.I submitted to GenBank, February 2000 submitted 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          hypothetical protein UU094 [imported] - Ureaplasma urealyticum c;Species: Ureaplasma urealyticum C;Date: 18-Aug-2000 #sequence_revision 20-Aug-2000 #text_change C;Accession: G82934
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A; Accession: G82934
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TEYVIQYIVKGKAAIYLKDEKNGDYI----YEETNNELEDFQAVTKRFITGTDSSRVHLI
                                                   -MKAIIENISLRNDRLLP-----NKYVAQLLNWLFYKKWVFINPLAIYETFEGDK-KIP 879
                                                                                                                                                                                                                                                                                                                                                                                                                 VYGDIDKLLCPDQSEQMYYTNKIAFPNEYVITKIAFT------KKLN-SLRYE 436
                                                                                                 FISNIVENGNIEGENIEPWKANNKNAYVDH-TGGVNGTKVLYVHEDGEFSQFIGDKLKLK 591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KAFLTLTTCRKLLGLADIDYTPIMNEHLNKEKEEF-----RVNILPTLS-NTFSNPNY 334
                                                                                                                                                                                                     LTPINGFGLVVDENSRLVTLTCKSYLRETLLATDLSNKE------
                                                                                                                                                                                                                                                            VLANAEFDIKPLFDLLPQKPLSFIDLGGLWEQIKKEFPYKIVLAKNDYVDHTISISQPQE
                                                                                                                                                                                                                                                                                                               VTANFYDSSTGDIDLNKKKIES-----SEAEFSMLNANNDGVYMPIGTISETF 484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EKARGSDKDAKIIMEAKPGYALVGFEISKDSIA----VLKVYQAKLKHNYQIDKDSLSEI 390
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -GVEMIFSLLKKFQIAIPEFIYKIIDELLIQNTNWNKENIKKL
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                                                                                                                                                     -TLIFKDRSDHDKYKIGYVFYPTHTVQTHMPNS
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C;Accession: T30822
R;Jensen, L.T.; Ladefoged, S.; Birkelund, S.; Christiansen, G.
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A;Tille: Selection of Mycoplasma hominis PG21 deletion mutants
A;Reference number: Z18884; MUID:95369882; PMID:7543881
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;Genetic code:
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Best Local :
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                                                         QDLMDDSVLSVDDSLKDDFNKALRVLVGDYTK----NPPVSSWFINKRNRSIENYQNLRN
                                                                                                QAKLKHNYQIDKDSLSE----
                                                                                                                                     QESTIKKVIVNIQAHIRNNINSQYRLEAD---KLIANMKRGYG-----DKVGIESLQKW
                                                                                                                                                                             EKEEFRVNILPTLSNTFSNPNYBKARGSDKDAKIIMEAKPGYALVGFEISKDSIAVLKVY
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Score 189.5; D. Pred. No. 0.48;
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T28317
ORF MSVI56 hypothetical protein - Melanoplus sanguinipes entomopoxvirus
C;Species: Melanoplus sanguinipes entomopoxvirus
C;Species: 1-Jan-2000 #sequence_revision 21-Jan-2000 #text_change 09-Jul-7
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A;Title: The genome of Melanoplus sanguinipes entomopoxvirus A;Reference number: Z20484; MUID:99102612; PMID:9847359
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A; Residues: 1-1127 < AFO>
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A;Status: preliminary; translated
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                  EYYK--NKINKEYNDIIELKNNNLQKLEEENKKIDEQTEYYKNKINKEYNDIIELKNNNL
                                                       TCRKLLGLADIDYTPIM---NEHLNKEKEEFRV----
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                                                                                                                                                                                                                                                         ETKNKISNLQNEILNKDSTI------
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Pred. No. 0.39
50; Mismatches
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                                                                                                STRIFKEKLDTEYKKIDDIKNNNLQKLEESYKKIDEQT
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NID: g4049647;

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Impl protein - Mycoplasma hominis
C;Species: Mycoplasma hominis
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change
C;Accession: T18351
R,Jensen, L.T.; Ladefoged, S.; Birkelund, S.; Christiansen, G.
Infect. Immun. 63, 3336-3347, 1995
A;Title: Selection of Mycoplasma hominis PG21 deletion mutants b
A;Reference number: Z18884; MUID:95369882; PMID:7543881
A;Accession: T18351
A;Accession: T18351
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T18351
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A;Molecule type: DNA
A;Mesidues: 1-1051 <JEN>
A;Cross-references: UNIFROT:Q49524; UNIPARC:UPI0000BD95B; EMBL:U21961; NID:g790241; C;Genetics:
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A;Genetic code:
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                                                                                                                                                                                                                                                             KTKQDSSHTDILDELTELTELAKSV-----TKND----VDGFEFYLNTFH---
                                                                                                     VSNANTLSAKLTDKDNTIQQAKTELEKEIQKANQAIKSNNTASMQSAKSSLDAKVABITK
                                                                                                                                     LNDVNTKLDAINLMLNTYLPKITSMLSDVMKQNYAL-----GLQI--EYLSKQLKEISD
                                                                                                                                                                       ELISQLTSKRDSKNSVTDSSNKSDIESANTELKQALAKANADKVQADNLAKSIKEQLNNS
                                                                                                                                                                                                       LTLDBILKNOQLLNEIS-----GKLDGVNGSLNDLLAQGNLDTELSKEILKIANEQ-NKV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SLSEIVYGDIDKLLCPDQSEQMYYTNKIAFPNEYVITKIAFTKKLNSLRYEVTANFYDSS 445
                                 KLETFNKDKEAKFNELKOTRNOIOEFINT--NKNNPNYSELISOLTSKRDSKNSVTDSSN
                                                                         KLDVIN---
                                                                                                                                                                                                                                         NNTASMOSAKSSLDAKVAEITKKLETFNKDKEAKFNELKOTRNOIQEFIN-TNKNNPNYS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                IR-NSREVVFERSYLQFSSKYISEKFTTTNNT---GLYVELSRASSRGVI
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WVGSQGTWISGNSLNINSNVNGTFRQNLS-----LESYSTYSMNFN--VNGFGKVT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GVNGTKVLYVHEDGEFSQFIGDKLKLKTEYVIQYIVKGKAAI--YLKDEKNGDYIYEETN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGDIDLNKKKIESSEAEFSMLNANNDGVYMPIGTISETFLTPINGFGLV-VDENSRLVTL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -----DSIINKIINNDQFK-----EYINSKIDSKSNELSTMFDDIFNAKNQIASITN
                                                                                                                                                                                                                                                                                                                                                                                    SGC3
                                                                                                                                                                                                                                                                                                             Conservative 135;
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                                                                   ---VNVLINSTLTBITPAY-ORIKYVNEKFEALTSATETNL 193
                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                           DB 2;
                                                                                                                                                                                                                                                                                                             316;
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E82909
S
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                                                                                                                                                    A;Molecule type: DNA;
A;Residues: 1-1830 <GLA>
A;Cross-references: UNIPARC:UPI00000C1C05; GB:AE002127;
A;Experimental source: serovar 3; biovar 1
                                                                                                                                                                                                                                      A;Description: The complete sequence of Ureaplasma urealyticum: Alternate views A;Reference number: A82870
A;Accession: E82909
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                                                                                                     A; Genetic code: SGC3
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20 NGIYGFATGIKDIMNMIFKTNTGGDLTLDEILK---NQQLLNEISGKLDG-VNGSLNDLL
                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LNSDNIAKLNEKIRLLVDRSR 1016
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TTTNNTG-----LYVELSR
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                                 Conservative
                                                   4.7%;
20.2%;
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                                 139;
                                                 Score 187; DB Pred. No. 0.93;
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                                 Mismatches
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                                 276;
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                                                                  Length 1830;
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                                 Indels
                                                                                                                                                                     GB:AF222894; NID:g6899268;
                                270;
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                                Gaps
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                                                                                                                                                                                                                                                                                                 1100 LIELIDNDK----IKD---------QDFIDVIKIFIDNLDFNKLFVNIKSNNNQ 1140
                                                                           1249 VELLNK---EKLLSNLIN 1263
                                                                                                                                               1189 IESNKAKIKSILTTSVTNIFENSNLMNFFNNQLSQLFSSIDLFKNLNLSNQQRLNFAKAI 1248
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                                                                                                            745 LQFSSKYISEKFTTTINN 762
                                                                                                                                                                                                                                                                                                                                    595 VIQYIVKGKAAIYLKDEKNGDYIYEETNNELEDFQAVTKRFITGTDSSRVHLIFTSQNGE 654
                                                                                                                                                                                                                                                                                                                                                                                                              541 GNLEGENLEPWKANNKNAYVDHTGGVNGTKV-----LYVHEDGEFSQFIGDKL-KLKTEY 594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        483 TFLTPINGF--GLVVDENSRLVTLTCKSYLRETLLATDLSNKETKLIVPPNGFISNIVEN 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              437 VTANF-----YDSSTGDIDL------NKKKIESSEAEFSMLNANNDGVYMPIGTISE 482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     928
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    377 KHNYQIDKDSLSEIVYGDIDKLLCPDQSEQMYYTNKIAFPNEYVITKIAFTKKLNSLRYE 436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             883 LKSLIRMSVDELLKNPQTQNFVTSIED------FIANKLGDLVISANNSLL 927
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  317
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           681 LQGPLSNVLAKIVKTNKALLTTRIDNLFNDLFKDQTTLDA-TYNILIRVLGQNIPDFIKT 739
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             561 NNIIGTQNISKKILYDVFRKNIINDQNLYELIKGMFHSQLFNENKSQIKSLIKALLSDLV 620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           958 IINDFIDHPONYDNLNNINDLLPLILKSTNKELODKVDILFKKL-INNENIPNLVGTLT- 1015
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    118 PK--ITSMLSDVMKQNYA-LGLQIEYLSKQLKEISDKLDVINVNVLI------ 161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     621 SSHKLLBIIFGEFATDNLKNNNEFLKNLLIIQNKLTOTKSLDNIINVFVDALFDNDNEYL 680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        264 GSEVGNVYNFLIV-----LTALQAKAFLTLTTCRKLLG-LADIDYTPIMNEHLNKEKEE 316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -----LTELAKSVTKNDVDGFEFYLNTFHDVMIGNNLFGRSALKTASELIAKENLKT--S 263
                                                                                                                                                                                                                                                                                                                                                                                                                                                   TNLIVKNFFVKELTVDQKQKI------
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FRVNILPTLSNTFSNPNYEKARGSDKDAKIIMEAKPGYALVGFEISKDSIAVLKVYQAKL 376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PQASLIIKKILSKGTNLKLINTLKLNTIDLLTDS--KTYAGIFDSSETSIINLIQKSIDF 797
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                                                                                                                                                                                      ---QNLSLESYSTYS------MNF-----NVNGFGKVTIRNSREVVFERSY 744
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## ALIGNMENTS

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	OS Bacillus thuringiensis.
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	Bacillus cereus group.
	NCBI_TaxID=1428;
	RP NUCLEOTIDE SECTENCE
_	Van Rie J., Arnaut G.
_	"Genes encoding insecticidal secreted
	thuringiensis.";
	Submitted (JAN-2
	EMBL; AJ872072; CAI43277.1; -; Genomic_DNA.
	GO; GO: 0016491;
<b>.</b>	DR GO: GO:0010451; F:0x1001e000cta8e activity; isA.
_	InterPro; IPR003305; CBM CenC.
_	Pfam; PF02018; CBM_4
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,	or ordered to any coppe in, obtained of oregoing carcos,
	Score 3527; DB 2; L Pred. No. 6.5e-157;
^	ALPSFIDYFNGIYGFATGIKDIMMMIFKTNT
	Db 5 NTKLNARALÞSFIDYFNGIYGFATGIKDIMMIFKTDTGGNLTLDBILKNQQLLNBISGK
_	AQGNLDTELSKEILKIANEQN
-	Db 65 LDGVNGSLNDLIAQGNLNTELSKEILKIANEQNQVLNDVNNKLDAINTMLHIYLPKITSM
_	EISDKLD
m	Db 125 ISDVMKQNYALSIQIEYLSKQLQEISDKLDIINVNVLINSTLTEITPAYQRIKYVNEKF
_	DSSHTDILDBLTELTBLAKSVTK
н	Db 185 ELTFATETTLKVKEDGSPADILDELTELTELAKSVTKNEVDGFEFYLNTFHDVAVGNNLF
_	Qy 244 GRSALKTASELIAKENLKTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLADIDYT
п	Db 245 GRSALKTASELIAKENVKTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLADIDYT
0	Qy 304 PIMNEHLNKEKEEFRVNILPTLSNTFSNPNYEKARGSDKDAKIIMBAKPGYALVGFBISK
ы	Db 305 SIMNEHLNKEKEEFRVNILPTLSNTFSNPNYVKAKGSDRDAKMIVBAKPGYALVGFENSN

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D (25813) BACTU PRELIMINARY; PRT; 789 AA.

C (25813);

T (10-MAY-2005 (TrEMBLrel. 30, Created)

T (10-MAY-2005 (TrEMBLrel. 30, Last sequence update)

T (10-MAY-2005 (TrEMBLrel. 30, Last annotation update)

E (110-MAY-2005 (TrEMBLrel. 30, Last annotation update)

E (111-ENDELPERISE)

Bacillus thuringlensis

C Bacillus thuringlensis

C Bacillus cereus group.

X NCBI TaxID=1428;

N (111-ENDELPERISE)
Query
                           EMBL; AY945939; Oxidoreductase.
SEQUENCE 789 A
                                                   gene.";
Submitted (FEB-2005) to the
SMBIL: AY945939; AAX49395.1;
                                                                                                       Cai J., Xiao L.;
"Bacillus thuringiensis strain
                                                                                                                                        NUCLEOTIDE SEQUENCE STRAIN=9816C;
 Match
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RESULT 4

Q5XPQ5 BACTU
ID Q5XPQ5 BACTU PRELIMINARY; PRT;
AC Q5XPQ5
DT 25-OCT-2004 (TrEMBLrel. 28, Created)
DT 25-OCT-2004 (TrEMBLrel. 28, Last seq
DT 25-OCT-2004 (TrEMBLrel. 28, Last ann
DE Vipa.
OS Bacillus thuringiensis.
OC Bacteria; Firmicutes; Bacillales; Ba
OC Bactllus cereus group.
OX NCBI TaxID=1428;
RN [1]
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Li J., Yan J., Yuan Z.;
Li J., Yan J., Yuan Z.;
Cloning and expression of vip3A gene from Bacillustrain Wy-197,";
Submitted (SEP-2004) to the EMBL/GenBank/DDBJ datal EMBL; AY743435; AAUB9707.1; -; Genomic_DMA.
CO; GO:001679B; F:hydrolase activity, acting on gl:GO; GO:0016491; F:oxidoreductase activity; IEA.
GO; GO:0005975; P:carbohydrate metabolism; IEA.
InterPro; IPR003305; CBM_CenC.
Pfam; PF0201B; CBM_4_9; I.
Oxidoreductase.
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21; Conservative
VINFGDFSIK
                                       NFIISEIRPSEELLSPELIKSDAWVGSQGTWISGNSLNINSNVNGTFRQNLSLESYSTYS
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78.6%;
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Pred. No. 1.8e
70; Mismatches
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Q79SG2 F
Q79SG2;
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"Vegetative insecticidal protein gene vip83 from Bacillus thuringiensis serovar leesis strain YBT-833.";
Submitted (JUL-2001) to the EMBL/GenBank/DDBJ databases.
EMBL; AY044227; AAK95326.1; -; Genomic DNA.
GO; GO:0016491; F:oxidoreductase activity; IEA.
InterPro; IPR003305; CBM Cenc.
Pfam; PF02018; CBM_4_9; I.
Oxidoreductase.
SEQUENCE 789 AA; 88671 MW; 9DD746486823C7AE CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bacillus thuringiensis serovar leesis.
Bacteria; Firmicutes; Bacillales; Bacillaceae;
Bacillus cereus group.
MCBI TaxID=169759;
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05-JUL-2004 (TrEMBLrel.
05-JUL-2004 (TrEMBLrel.
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NGSIEEDNLEPWKANNKNA
        NGNLEGENLEPWKANNKNAYVDHTGGVNGTKVLYVHEDGEFSQFIGDKLKLKTEYVIQYI
                                                   ISETFLTPINGFGLVVDENSRLVTLTCKSYLRETLLATDLSNKETKLIVPPNGFISNIVE
                                                                                               VITKIAFTKKLNSLRYEVTANFYDSSTGDIDLNKKKIESSEAEFSMLNANNDGVYMPIGT
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                                          ISETFLTPINGFGLQADENSRLITLTCKS
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Last seq
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Pred. No. 1.8e
70; Mismatches
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SULT 6

33821 BACTU

D Q93821 BACTU PRELIMINARY;

C Q93821; Q812N0;

DT 01-DEC-2001 (TremBLrel. 19, Created)

DT 01-DEC-2001 (TremBLrel. 30, Last sequence update)

DT 10-MAY-2005 (TremBLrel. 30, Last annotation update)

DT 10-MAY-2005 (TremBLrel. 30, Last annotation update)

Vequetative insecticidal protein Vip3A (Vegetative insection update)

Vequetative insecticidal protein Vip3A (Vegetative insection update)

Output

Description (TremBLrel. 30, Last annotation update)

Vequetative insecticidal protein Vip3A (Vegetative insection update)
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Query
                                   Pfam; PF02018; (Oxidoreductase. SEQUENCE 789)
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STRAIN-MB 50;
PubMed=15604775; DOI=10.1023/B:BILE.0000045645.45536.3f;
Mu Z.L., Guo W.Y., Qiu J.Z., Huang T.P., Li X.B., Guan X
"Cloning and localization of vip3A gene of Bacillus thur
"Cloning Lett. 26:1425-1428(2004).
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Submitted
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MEDLINB=22244722; PubMed=12356474; DOI=10.1016/S1046-5928(02)00515-6;

Doss V.A., Anup Kumar K., Jayakumar R., Sekar V.;

"Cloning and expression of the vegetative insecticidal protein (vip3V gene of Bacillus thuringiensis in Escherichia coli.";
                                                                                                                                                                                                                                                                                                                                          STRAIN=C9;
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NCBI_TaxID=1428;
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SSULT 7

88XIZ_BACTU

058XIZ_BACTU PRELIMINARY; PRT; 789 AA.

Q58XIZ;

10-MAY-2005 (TrEMBLrel. 30, Created)

10-MAY-2005 (TrEMBLrel. 30, Last sequence update)

10-MAY-2005 (TrEMBLrel. 30, Last annotation update)

10-MAY-2005 (TrEMBLrel. 30, Last annotation update)

Vegetative insecticidal protein.

Name=vip3LB;

Bacillus thuringiensis.

Bacillus cereus group.

NCBI_TaxID=1428;
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Abdelkefi Mesrati L., Tounsi S., Jaoua S.;
Abdelkefi Mesrati L., Tounsi S., Jaoua S.;
"Characterization of a novel vip3-type gene fi
thuringiensis and evidence of its presence on
FEMS Microbiol. Lett. 244:353-358(2005).
EMBL; AX739665; AAW65132.1; -; Genomic_DNA.
Oxidoreductase.
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Bacillus thuringiensis.
Bacteria; Firmicutes; Bacillales;
Bacillus cereus group.
NCBI_TaxID=1428;
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Oxidoreductase.
SEQUENCE 789 AA; 886
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"Vip3A,
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                                              NGSI EEDNLEPWKANNKNAYVDHTGGVNGTKALYVHKDGGI SQFIGDKLKPKTBYVI QYT
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RESULT 9
QBRSZ5 BACTU
ID QBRSZ5 BACTU PRELIMINARY; PRT;
AC QBRSZ5;
DT 01.JUN-2002 (TrEMBLrel. 21, Created)
DT 01.JUN-2002 (TrEMBLrel. 30, Last ann
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DE SCOULLES; Bacillales; Bacillales;
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Chen J., Yu J., Pang Y.;

Chen J., Yu J., Pang Y.;

Chen J., Yu J., Pang Y.;

Chen J., Xu J., Pang Y.;

Submitted (NOV-2002) to the EMBL/GenBank/DDBJ date of the EMBL, AV074706; AAL69542.1; -; Genomic DNA.

EMBL; AY187679; AA032350.1; -; Genomic DNA.

GO; GO:0016491; F:oxidoreductase activity; IEA.

InterPro; IPR003305; CBM CenC.

Pfam; PF02018; CBM 4_9; I.

Oxidoreductase.

SEQUENCE 789 AA; 88645 MW; D9DF334011551472
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MEDLINB=22744951; PubMed=12859763;
DOI=10.1046/j.1365-2672.2003.01977.x;
Chen J., Yu J., Tang L., Tang M., Shi Y.,
"Comparison of the expression of Bacillus and N-terminally truncated vip3A gene in E J. Appl. Microbiol. 95:310-316(2003).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Chen J.W., Tang L.X., Tang M.J., Shi Y.X., Pang Y.; "[Cloning and expression product of vip3A gene from Bac: thuringiensis and analysis of inseceicidal activity]."; Sheng Wu Gong Cheng Xue Bao 18:687-692(2002).
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hes 621;
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ITSMLSDVMKQNYALSLQIEYLSKQLQEISDKLDIINVNVLINSTLTEITPAYQRIKYVN
                         ITSMLSDVMKQNYALGLQIEYLSKQLKEISDKLDVINVNVLINSTLTEITPAYQRIKYVN
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Pred. No. 2.8e-140;
9; Mismatches 95;
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RESULT 10

069270 BACTU
ID 069270;
AC 069270;
AC 069270;
DT 01-AUG-1998 (TrEMBLrel. 0:
DT 01-AWG-1998 (TrEMBLrel. 0:
DT 01-AWG-1998 (TrEMBLrel. 0:
DT 01-MAR-2004 (TrEMBLrel. 0:
DT 01-MAR-2014 (TrEMBLrel. 0:
DE Vegetative insecticidal px
GN Name=vip-s;
OS Bacillus thuringiensis.
OC Bacillus cereus group.
OX NCBI_TAXID=1428;
RN [1]
RN (13]
RN (13]
RN (13]
RN (14)
RR SIGNIENCE.
RC STRAIN=A13; TISSUB=Leaf;
RX MEDLINE=2157933; PubMedeil
RX MEDLINE=2157933; PubMedeil
RX MEDLINE=2157933; PubMedeil
RX MEDLINE=157933; PubMedeil
RX Singh S.P., Bhatnagar R.K.
RT insecticidal protein from
RL Appl. Environ. Microbiol.
DR Appl. Environ.
RI Appl. Environ.
RI Appl. Environ.
DR GO; GO:0016491; F:0xidoreed
DR InterPro; IPR003305; CBM_C
DR Pfam; PF02018; CBM_C
DR Pfam; PF02018; CBM_C
DR Oxidoreductase.
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         NUCLEOTIDE SEQUENCE.

STRAIN=A13; TISSUB=Leaf;

KMEDLINE=21579339; PubMed=11722946;

KMEDLINE=21579339; PubMed=11722946;

KDOI=10:1128/AEM.67.12.5855-5858.2001;

KSelvapandiyan A., Arora N., Rajagopal R., Jalali S.K.

Singh S.P., Bhatnagar R.K.;

Toxicity analysis of N- and C-terminus-deleted vege!

I insecticidal protein from Bacillus thuringiensis.";

Appl. Environ. Microbiol. 67:5855-5858(2001).

REMBL; V17158; CAA76665.1; -; Genomic DNA.

R GO; GO:0116491; F:oxidoreductase activity; IEA.

R InterPro; IPR003305; CBM_CenC.

R Pfam; PF02018; CBM_4—9; I.
                                                                                                                                                                                                                        Bacillus thuringiensis.
Bacteria; Firmicutes; Bacillales;
Bacillus cereus group.
NCBI TaxID=1428;
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QAVYTO BACTU

QAVYTO;

Q4YYTO;

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13-SEP-2005 (TrEMBLrel. 3

13-SEP-2005 (TrEMBLrel. 3

Vegetative insecticidal p

Name=vip3A;
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EMBL; AJ971413; CA196522.1; -; Genomic_DNA.
InterPro; IPR003305; CenC carb bd.
InterPro; IPR003305; CenC carb bd.
Pfam; PF02018; CBM_4_9; 1.
Oxidoreductase.
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SEQUENCE 789 AA; 88614 MW; SF255A098B9C861
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Bacillus cereus group
NCBI_TaxID=1428;
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Submitted (APR-2005) to the EMBL/GenBank/DDBJ EMBL; DQ016968; AAY41427.1; -; Genomic_DNA. InterPro; IPR003305; CenC_carb_bd. Pfam; PF02018; CBM 4 9; 1.
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GO; GO:0016798; F:hydrolase activity, acting on GO; GO:0016491; F:oxidoreductase activity; IEA.
GO; GO:0016491; F:oxidoreductase activity; IEA.
GO; GO:0005975; P:carbohydrate metabolism; IEA.
InterPro; IPR003305; CBM_CenC.
Pfam; PF02018; CBM_4 9; I.
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SEQUENCE 786 AA;
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STRAIN-LS8;
Lu X., Hao H., Sun S., Zhu M., Du K., Li G.;
"Vegetative insecticidal protein gene vip3A-LS8
thuringiensis strain LS8.";
Submitted (APR-2005) to the EMBL/GenBank/DDBJ da
EMBL; DQ016969; AAV41428.1; -; Genomic_DNA.
InterPro; IPR003305; CenC_carb_bd.
Pfam; PF02018; CBM_4_9; 1.
Oxidoreductase
SEQUENCE 789 AAA; 88540 MW; D4A09EDAA53898B3
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Vegetative insecticidal pro

Name=vip3A;
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Bacteria, Firmicutes; Bacillales;
Bacillus cereus group.
                                                                                              MOKNN-KLSVKALPSFIDYFNGIYGFATGIKDIMNMIFKTNTGGDLTLDEILKNQQLLNB
                             ITSMLSDVMKQNYALGLQIEYLSKQLKEISDKLDVINVNVLINSTLTEITPAYQRIKYVN
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01-MAR-2004 (TrEMBLrel. 26,
                                                                                                                                                                                                                                                               Name=vip3A(b);
Bacillus thuringiensis.
Bacteria; Firmicutes; Ba
Bacillus cereus group.
NCBI_TaxID=1428;
"Vip3A, a novel Bacillus thuringiensis vegetative with a wide spectrum of activities against lepidor proc. Natl. Acad. Sci. U.S.A. 93:5389-5394 (1996). EMBL; L48812; ARC37037.1; -; Genomic DNA. GO; GO:0016491; F:oxidoreductase activity; IEA. InterPro; IPR003305; CBM_CenC.
                                                                                                                                   MEDLINE=96224295; PubMed=8643585; I Estruch J.J., Warren G.W., Mullins Koziel M.G.;
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SEQUENCE 789 AA; 8863
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                                                                         EISKDSIAVLKVYQAKLKHNYQIDKDSLSEIVYGDIDKLLCPDQSEQMYYTNKIAFPNEY
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IVHFYDVSIK
             VINFGDFSIK
                         VYFSVSGDANVRIRNSREVLFEKRYMS
                                                                                                    NGSIEEDNLEPWKANNKNAYVDHTGGVNGTKALYVHKDGGISQFIGDKLKPKTEYVIQYT
                                                                                                          NGNLEGENLEPWKANNKNAYVDHTGGVNGTKVLYVHEDGEFSQFIGDKLKLKTEYVIQYI
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Pred. No. 1.4e-139;
70; Mismatches 97;
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                          -GAKDVSEMFTTKFEKDNFYIELSQGNNLYGGP
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Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
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seq length: 2000000000
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1. /cgn2_6/ptodata/1/iaa/5_COMB.pep:*

2. /cgn2_6/ptodata/1/iaa/6_COMB.pep:*

3. /cgn2_6/ptodata/1/iaa/H_COMB.pep:*

4. /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*

5. /cgn2_6/ptodata/1/iaa/RE_COMB.pep:*

6. /cgn2_6/ptodata/1/iaa/Backfiles1.pep:*
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3995
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Copyright (c) 1993 - 2006 Biocceleration Ltd.
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US-09-589-477-92
US-09-589-477-92
US-09-589-477-92
US-09-60-786-8
US-09-90-73-98-8
US-09-90-73-98-8
US-09-8471-033-29
US-08-471-044-29
US-08-471-044-29
US-08-471-046A-29
US-08-471-046A-29
US-08-471-046A-29
US-08-471-046A-29
US-08-471-046A-29
US-08-471-046A-29
US-08-473-334-29
US-08-333-336A-2
US-09-233-752A-2
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Sequence 54, Appl
Sequence 82, Appl
Sequence 82, Appl
Sequence 84, Appl
Sequence 84, Appl
Sequence 92, Appl
Sequence 92, Appl
Sequence 8, Appli
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Sequence 29, Appli
Sequence 27, Appli
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Result No.

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Maximum Minimum Total number Searched:

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32,	32,	32,	Sequence 32,	4.	4,	4,	٠,	٠ ص	6, 2	96,	94,	•	96,	94,	78,	Sequence 96,	•
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Title: Perfect score: Sequence:

Scoring table:

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## ALIGNMENTS

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APPLICATION NUMBER: US 08/960,780 FILING DATE: 30-OCT-1997 PRIOR APPLICATION DATA: APPLICATION NUMBER: US 09/073,898 FILING DATE: 05-MAY-1998 ATTORNEY/AGENT INFORMATION: NAME: Sanders, Jay M. REGISTRATION NUMBER: 39,355 REGISTRATION NUMBER: MA-708C2 TELECOMMUNICATION: TELEPHONE: 352-375-8100	LOEWEY, D.  MullerColl lum, C.  MullerColl Stamp, Li  Stamp, Li  Finstad-L  INVENTION:  FINTENTION:  SEQUENCES:  DENCE ADDRESS.  DENCE ADDRESS.  EE: Saliwan  2421 N.W.  Gainesville  FL  US	RESULT 1  US-09-307-106-54  ; Sequence 54, Application US/09307106 ; Patent No. 6603063 ; GENERAL INFORMATION: APPLICANT: Feitelson, Jerald S. APPLICANT: Schnepf, H. Ernest APPLICANT: Narva, Kenneth E. APPLICANT: Stockhoff, Brian A. APPLICANT: Schmeits, James

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Best Local Similarity
Matches 682; Conserv
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TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
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                                                               VNGFGKVTIRNSREVVFERSYLQFSSKYISEKFTTTNNTGLYVELSRASSRGVINFGDF
                                                                                                                     SEIRPSEELLSPELIKSDAWVGSQGTWISGNSLNINSNVNGTFRQNLSLESYSTYSMNFN
                                                                                                                                                                          AAIYLKDEKNGDYIYEETNNELEDFQAVTKRFITGTDSSRVHLIFTSQNGEEAFGGNFII
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ALTSATETNLKTKQDSSHTDILDELTELTELAKSVTKNDVDGFEFYLNTFHDVMIGNNLF
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                                                VNGFGKVTVRNSREVLFEKSYPQLSPKDISEKFTTAANNTGLYVELSRSTSGGAINFRDF
                                                                                                                                                                                                                                                                                   FLTPINGFGLVVDENSRLVTLTCKSYLRETLLATDLSNKETKLIVPPNGFISNIVENGNL
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                                                                                                      SEIRTSEELLSPELIMSDAWVGSQGTWISGNSLTINSNVNGTFRONLPLESYSTYSMNFT
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Pred. No. 1.5e-239;
5; Mismatches 56;
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ches 56;
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RESULT 2 US-09-002-285-82

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Sequence 82, Application US/09002285
Patent No. 6369213
GENERAL INFORMATION:
APPLICANT: Schnepf, H. Ernest
APPLICANT: Wicker, Carol
APPLICANT: Wicker, Kenneth E.
APPLICANT: Walz, Michelle
APPLICANT: Walz, Michelle
APPLICANT: Walz, Michelle
APPLICANT: Workhoff, Brian
APPLICANT: Muller-Cohn, Judy
ITITLE OF INVENTION: Toxins Active Ag.
INWHER OF SEQUENCES: 105
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APPLICATION NUMBER: US 08/886,615
FILLING DATE: 1-UIL-1997
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/674,002
FILLING DATE: 1-UIL-1996
ATTORNEY/AGENT INFORMATION:
NAME: Sanders, Jay M.
REGISTRATION NUMBER: 39,355
REFERENCE/DOCKET NUMBER: WA-701C2
TELECOMMUNICATION INFORMATION:
TELEPAN: (352) 375-8100
TELEPAN: (352) 372-5800
INFORMATION FOR SEQ ID NO: 82:
SEQUENCE CHARACTERISTICS:
"ENGRITH: 789 amino acids
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Best Local S
Matches 624
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STREET: 2421 N.W. 41st Street, Su
CITY: Gainesville
STATE: Florida
COUNTRY: USA
ZIP: 32606
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin
                                                                                                                                                                                                                                                                                                                                                                                                                                             STRANDEDNESS: single TOPOLOGY: linear MOLECULE TYPE: protein
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CLASSIFICATION:
PRIOR APPLICATION DATA:
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NNLFGRSALKTASELIAKENVKTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLAD
                  NNLFGRSALKTASELIAKENLKTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLAD
                                                                EXFEALTSATETNLKTKQDSSHTDILDELTELTELAKSVTKNDVDGFEFYLNTFHDVMIG
                                                                                                                                       ITSMLSDVMKQNYALSLQIEYLSKQLQEISDKLDIINVNVLINSTLTEITPAYQRIKYVN
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Pred. No. 9.9e-217;
9; Mismatches 92;
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RESULT 3
US-09-589-477-82
Sequence 82, Application US/09589477
Patent No. 6570005
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APPLICANT: Schnepf, H. Ernest
APPLICANT: Wicker, Carol
APPLICANT: Warva, Kenneth E.
APPLICANT: Walz, Michelle
APPLICANT: Stockhoff, Brian
APPLICANT: Stockhoff, Brian
APPLICANT: Stockhoff, Brian
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                                                                                                                                       ADDRESSEE: Saliwanchik, Lloyd & Sal.
STREET: 2421 N.W. 41st Street, Suit.
CITY: Gainesville
STATE: Plorida
COUNTRY: USA
ZIP: 32606
COMPUTER READABLE FORM:
MEDIIM TYPE: Ploppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/589,477
APPLICATION NUMBER: US/09
FILING DATE:
CLASSIFICATION DATA:
APPLICATION DATA:
APPLICATION NUMBER: US 08
FILING DATE: 1-JUL-1997
CLASSIFICATION DATA:
APPLICATION NUMBER: US 08
FILING DATE: 1-JUL-1996
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
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Best Local S
Matches 624
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INFORMATION FOR SEQ ID NO: E
SEQUENCE CHARACTERISTICS:
LENGTH: 789 amino acids
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TELECOMMUNICATION INFORMATION:
TELEPHONE: (352) 375-8100
TELEPHAX: (352) 372-5800
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NAME: Sanders, Jay M.
REGISTRATION NUMBER: 39,
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 VINFGDFSIK 786
                          VYFSVSGDANVRIRNSREVLFEKRYMS-GAKDVSEMFTTKFEKDNFYIELSQGNNLYGGP
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                                                                                 NFIILEISPSEKLLSPELINTNNWTSTGSTHISGNTLTLYQGGRGILKQNLQLDSFSTYR
                                                                                                 NFIISEIRPSEELLSPELIKSDAWVGSQGTWISGNSLNINSNVNGTFRQNLSLESYSTYS
                                                                                                                                      VKGKPSIHLKDENTGYIHYEDTNNNLKDYQTITKRFTTGTDLKGVYLILKSQNGDEAWGD
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US-10-099-285A-82
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Best Local Similarity
Matches 624; Conserv
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GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: US 09/002,285
FILING DATE: 31-DEC-1997
APPLICATION NUMBER: US 08/886,615
FILING DATE: 1-JUL-1997
APPLICATION NUMBER: US 08/674,002
PILING DATE: 1-JUL-1996
ATTORNEY/AGENT INFORMATION:
NAME: Sanders, Jay M.
REGISTRATION NUMBER: 39,355
REFERENCE/DOCKET NUMBER: MA-701C2D1
TELEPHONE: (332) 375-8100
TELEPHONE: (332) 375-8100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUMBER OF SEQUENCES: 1. CORRESPONDENCE ADDRESS: Saliwanchik, Lloyd & ADDRESSE: 2421 N.W. 41st Street,
                                                                                                                                                                                                                                                                                                                           MOLECULE TYPE: protein SEQUENCE DESCRIPTION: SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: US/10/099,285A
FILING DATE: 02-U11-2002
CLASSIFICATION: «Unknown»
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE CHARACTERISTICS:
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CURRENT APPLICATION DATA:
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COUNTRY: USA
ZIP: 32606
                                        ITSMLSDVMKQNYALGLQIEYLSKQLKEISDKLDVINVNVLINSTLTEITPAYQRIKYVN 179
                                                                                                            ISGKLDGVNGSLNDLLAQGNLDTELSKEILKIANEQNKVLNDVNTKLDAINLMLNTYLEK 119
                                                                                                                                                                                  MQKNN-KLSVKALPSFIDYFNGIYGFATGIKDIMNMIFKTNTGGDLTLDBILKNQQLLNE
                                                                                                                                                              MNKNNTKLSTRALPSFIDYFNGIYGFATGIKDIMMIFKTDTGGNLTLDEILKNQQLLNE
                      ITSMLSDVMKQNYALSLQIEYLSKQLQEISDKLDIINVNVLINSTLTEITPAYQRIKYVN
                                                                                          ISGKLDGVNGSLNDLIAQGNLNTELSKEILKIANEQNQVLNDVNNKLDAINTMLHIYLPK
                                                                                                                                                                                                                                                                                                                                                                             TYPE: amino acid
STRANDEDNESS: single
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                                                                                                                                                                                                                                                                                                                                                                                                                  LENGTH: 789 amino acids
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OF INVENTION: Toxins Active Against Pests
OF SEQUENCES: 105
                                                                                                                                                                                                                                          Conservative
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Pred. No. 9.96
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                                                                                                                                                                                                                                                                                                                                  Patent No. 6369213
GENERAL INFORMATION:
APPLICANT: Schnepf,
APPLICANT: Wicker,
APPLICANT: Narva, F
APPLICANT: Walz, M
APPLICANT: Walz, M
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                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 84,
SOFTWARE: PATENTIN CURRENT APPLICATION NUMBER: US FILING DATE:
                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                  CORRESPONDENCE ADDRESS: ADDRESSEE: Saliwanch
                                                                                                                                                                                                                                                                    APPLICANT: Muller-Cohn, Judy
TITLE OF INVENTION: Toxins Active
NUMBER OF SEQUENCES: 105
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                                                                                                                                                            STATE: F
                                                                                                                                                                       AUDRESSEE: Saliwanchik, Lloyd & Saliwanchik
STREET: 2421 N.W. 41st Street, Suite A-1
CITY: Gainesville
STATE: Florida
                                                                                                                                              ZIP:
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Narva, Kenneth E.
Walz, Michelle
Stockhoff, Brian
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                                                                                                                                                            USA
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                  us/09/002,285
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US-09-002-285-84
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Best Local
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/886,615
PILING DATE: 1-JUL-1997
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/674,002
PILING DATE: 1-JUL-1996
ATTORNEY/ACENT INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE CHARACTERISTICS:
LENGTH: 789 amino acids
TYPE: amino acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELECOMMUNICATION INFORMATION: TELEPHONE: (352) 375-8100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME: Sanders, Jay M.
REFERENCE/DOCKET NUMBER: MA
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NFIISEIRPSEELLSPELIKSDAWVGSQGTWISGNSLNINSNVNGTFRQNLSLESYSTYS
                                                                                                                                               NGNLEGENLEPWKANNKNAYVDHTGGVNGTKVLYVHEDGEFSQFIGDKLKLKTBYVIQYI 599
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                                                                                                                            NGSIEEDNLEPWKANNKNAYVDHTGGVNGTKALYVHKDGGFSQFIGDKLKPKTEYVIQYT
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                                                      VKGKPSIHLKDENTGYIHYEDTNNNLKDYQTITKRFTTGTDLKGVYLILKSQNGDEAWGD
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linear
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; LENGTH: 789 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-09-589-477-84
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US-09-589-477-84
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Best Local Similarity
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Patent No.
                                                                                                                                                                                                                                                            TELEFAX: (352) 372-5800 INFORMATION FOR SEQ ID NO: (
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MEDIUM TYPE: Floppy (
COMPUTER: IBM PC compoperating SYSTEM: PC
                                                                                                                                                                                                                                                                                      REFERENCE/DOCKET NUMBER: MA
TELECOMMUNICATION INFORMATION:
TELEPHONE: (352) 375-8100
                                                                                                                                                                                                                                                                                                                                                                                        CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 1
FILING DATE: 1-JUL-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CLASSIFICATION:
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                              CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
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APPLICATION NUMBER: US
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APPLICANT: Stockhoff, Brian
TITLE OF INVENTION: Toxins Active
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STREET:
                                                                                                                                                                                                                                                                                                              NAME: Sanders, Jay M.
NAME: Sanders, Jay M.
REGISTRATION NUMBER: 39,355
REGISTRATION NUMBER: MA-701C1C1
                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: US FILING DATE: 1-JUL-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FILING DATE
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6570005
ISGKLDGVNGSLNDLLAQGNLDTELSKEILKIANEQNKVLNDVNTKLDAINLMLNTYLPK
                                           IVHFYDVSIK 789
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Narva, Kenneth E.
Walz, Michelle
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PC-DOS/MS-DOS
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78.9%;
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Pred. No. 1.4e-216;
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RESULT 7
US-10-099-285A-84
US-10-099-285A-84; Sequence 84, Application US/10099285A; Patent No. 6752992; GENERAL INFORMATION:
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       ZIP: 32606
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                          Muller-Cohn, Judy
TITLE OF INVENTION: Toxins Active Against Pests
NUMBER OF SEQUENCES: 105
CORRESPONDENCE ADDRESS:
ADDRESSEE: Saliwanchik, Lloyd & Saliwanchik
STREET: 2421 N.W. 41st Street, Suite A-1
CITY: Gainesville
STATE: Florida
COUNTRY: USA
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Narva, Kenneth E.
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Best Local Similarity
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INFORMATION FOR SEQ ID NO: 84:
SEQUENCE CHARACTERISTICS:
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APPLICATION NUMBER: US 08/886,615
APPLICATION NUMBER: US 08/886,615
FILING DATE: 1-JUL-1997
APPLICATION NUMBER: US 08/674,002
FILING DATE: 1-JUL-1996
ATTORNEY/AGENT INFORMATION:
NAME: Sanders, Jay M.
REGISTRATION NUMBER: 39,355
REFERENCE/DOCKET NUMBER: MA-701C2D1
TELECOMMUNICATION INFORMATION:
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MOLECULE TYPE: protein
SEQUENCE DESCRIPTION: SEQ ID
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SOFTWARE: PATENTIN
CURRENT APPLICATION DATA:
APPLICATION UNMER: US/10/099,285A
FILING DATE: 02-Jul-2002
CLASSIFICATION: <Unknown>
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NGNLEGENLEPWKANNKNAYVDHTGGVNGTKVLYVHEDGEFSQFIGDKLKLKTEYVIQYI
                                                                       ISETFLTPINGFGLVVDENSRLYTLTCKSYLRETLLATDLSNKETKLIVPPNGFISNIVE
                                                                                                                                         VITKIAPTKKLNSLRYEVTANFYDSSTGDIDLNKKKIESSEAEFSMLNANNDGVYMPIGT
                                                                                                                           VITKIDFTKKMKTLRYEVTANFYDSSTGEIDLNKKKVESSEAEYRTLSANDDGVYMPLGV
                                                                                                                                                                                             EMSNDSITVLKVYEAKLKQNYQVDKDSLSEVIYGDTDKLLCPDQSEQIYYTNNIVFPNEY
                                                                                                                                                                                                               EISKDSIAVLKVYQAKLKHNYQIDKDSLSEIVYGDIDKLLCPDQSEQMYYTNKIAFPNEY
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                                                       ISETFLTPINGFGLQADGNSRLITLTCKSYLRELLLATDLSNKETKLIVPPSGFISNIVE
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: PC-DOS/MS-DOS
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Pred. No. 1.4e
70; Mismatches
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L.4e-216;
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Indels Length

Gaps

480

479 420 419

360 359 300 299

240 239 180 120

60

599 540

789; <u>ن</u>

60 59

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STRANDEDNESS: Bir
TOPOLOGY: linear
HOLECULE TYPE: prot
US-09-002-285-92
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US-09-002-285-92
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   Query Match
Best Local Sim:
Matches 623;
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Patent No. 6369213
GEMERAL INFORMATION:
APPLICANT: Schnepf, H. Ernest
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STREET: 2421 N.W. 41st Street, Such State: Plorida COUNTRY: USA ZIP: 32606
COMPUTER READABLE FORM: MEDIUM TYPE: Floppy disk COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Patentin
                                                                                                                                                                                                                                          PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/886
FILING DATE: 1-UTL-1997
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/674
FILING DATE: 1-UTL-1996
ATTORNEY/AGENT INFORMATION:
NAME: Sanders, Jay M.
REGISTRATION NUMBER: 39,355
REFERENCE/DOCKET NUMBER: MA-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Wicker, Carol
APPLICANT: Warva, Kenneth E.
APPLICANT: Walz, Michelle
APPLICANT: Stockhoff, Brian
APPLICANT: Muller-Cohn, Judy
TITLE OF INVENTION: Toxins Active Ag
NUMBER OF SEQUENCES: 105
CORRESPONDENCE ADDRESS:
                                                                                                                                         TELEFAX: (352) 372-5800
INFORMATION FOR SEQ ID NO: 9
SEQUENCE CHARACTERISTICS:
LENGTH: 789 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                           CURRENT APPLICATION DATA:
APPLICATION NUMBER: US
FILING DATE:
                                                                                                                                                                                                            TELEPHONE: (352) 375-8100
                                                                                                                                                                                                                                                                                                                                                                                                          CLASSIFICATION:
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                    79.5%;
78.9%;
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 Score 3176.5; DB 2;
Pred. No. 2.6e-216;
9; Mismatches 93;
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US-09-589-477-92
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                                                                                                                                                         Sequence 92, Application Patent No. 6570005 GENERAL INFORMATION:
                                             APPLICANT: Schnepf, H. Ernest
APPLICANT: Wicker, Carol
APPLICANT: Warva, Kenneth E.
APPLICANT: Walz, Michelle
APPLICANT: Scockhoff, Brian
TITLE OF INVENTION: Toxins Active Ag
NUMBER OF SEQUENCES: 105
CORRESPONDENCE ADDRESS:
ADDRESSEE: Saliwanchik, Lloyd |
STREET: 2421 N.W. 41st Street,
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   & Saliwanchik
, Suite A-1
                                                               Against
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Best Local :
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE CHARACTERISTICS:
LENGTH: 789 amino acids
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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CURRENT APPLICATION DATA:
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TOPOLOGY: lir
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REGISTRATION NUMBER: 39,355
REFERENCE/DOCKET NUMBER: MA
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                                                                        EISKDSIAVLKVYQAKLKHNYQIDKDSLSBIVYGDIDKLLCPDQSEQMYYTNKIAFPNEY
                                                         EMSNDSITVLKVYEAKLKQNYQVDKDSLSEVIYGDTDKLLCPDQSEQIYYTNNIVFPNEY
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Pred. No. 2.6
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RESULT 10
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Patent No. 6752992
GENERAL INFORMATION:
                                                                               INFORMATION FOR SEQ ID NO: 92:
                                                                                                                                  APPLICATION NUMBER: US 09/002,285
FILING DATE: 31-DEC-1997
APPLICATION NUMBER: US 08/886,615
FILING DATE: 1-JUL-1997
APPLICATION NUMBER: US 08/674,002
APPLICATION NUMBER: US 08/674,002
FILING DATE: 1-JUL-1996
ATTORNEY/AGENT INFORMATION:
NAME: Sanders, Jay M.
REGISTRATION NUMBER: 39,355
REFERENCE/DOCKET NUMBER: MA-701C2D1
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                     FILING DATE: 02-Jul-2002
CLASSIFICATION: <Unknown>
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ZIP: 32606
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                           SEQUENCE CHARACTERISTICS:
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APPLICATION NUMBER: US/10/099,285A
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TITLE OF INVENTION: Toxins A
NUMBER OF SEQUENCES: 105
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                 LENGTH: 789 amino acids
TYPE: amino acid
                                                                                                  TELEPHONE: (352) 375-8100
TELEPAX: (352) 372-5800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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STATE: Florida
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STRANDEDNESS: single
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Narva, Kenneth E.
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RESULT 11
US-08-960-780-8
; Sequence 8, Application U;
; Patent No. 6204435
; GENERAL INFORMATION:
; APPLICANT: Feitelson,
; APPLICANT: Schnepf, H
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                                                                                                                                    IVHFYDVSIK 789
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                                                                                                                                                                                                                                                                                                                                                             NGSIEEDNLEPWKANNKNAYVDHTGGVNGTKALYVHKDGGISQFIGDKLKPKTEYVIQYT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VITKIAPTKKLNSLRYEVTANFYDSSTGDIDLNKKKIESSEAEFSMLNANNDGVYMPIGT 479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EISKDSIAVLKVYQAKLKHNYQIDKDSLSEIVYGDIDKLLCPDQSEQMYYTNKIAFPNEY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NNLFGRSALKTASELIAKENLKTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLAD
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                                                                                                                                                                VINFGDFSIK 786
                                                                                                                                                                                           VYFSVSGDANVRIRNSREVLFEKRYMS-GAKDVSEMFTTKFEKDNFYIELSQGNNLYGGP
                                                                                                                                                                                                                                                                            NFIISBIRPSEBLLSPELIKSDAWVGSQGTWISGNSLNINSNVNGTFRQNLSLESYSTYS 719
                                                                                                                                                                                                                                                                                                       VKGKPSIHLKDENTGYIHYEDTNNNLKDYQTITKRFTTGTDLKGVYLILKSQNGDEAWGD
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       Feitelson,
Schnepf, H.
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                    Jerald S
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Pred. No. 2.6e
69; Mismatches
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Best Local S
Matches 621
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OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, \
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/960,780
FILING DATE: 30-OCT-1997
CLASSIFICATION UNMBER: US 60/029,848
FILING DATE: 30-OCT-1996
PRIOR APPLICATION UNMBER: US 60/029,848
FILING DATE: 30-OCT-1996
ATTORNEY/AGENT INFORMATION:
NAME: Saliwanchik, David R.
REGISTRATION NUMBER: 31.794
REFERENCE/DOCKET NUMBER: MA-708
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: amino acids
STRANDEDNESS: single
TOPOLOGY: linear
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APPLICANT: Stockhoff, Brian A.
APPLICANT: Schmeits, James
APPLICANT: Loewer, David
APPLICANT: Dullum, Charles Joseph
APPLICANT: Muller-Cohn, Judy
APPLICANT: Stamp, Lisa
TITLE OF INVENTION: No. 6204435el Pesticidal Toxins and ITITLE OF INVENTION: Sequences Which Encode These Toxins
NUMBER OF SEQUENCES: 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MOLECULE TYPE: protein
ORIGINAL SOURCE:
INDIVIDUAL ISOLATE: Jav90
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CITY: Ga
STATE: F
COUNTRY:
ZIP: 326
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FL
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                                                                           NNLFGRSALKTASELIAKENLKTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLAD
                                                                                                                                               EKFEALTSATETNIKTKQDSSHTDILDELTELTELAKSVTKNDVDGFEFYLNTFHDVMIG 239
                                                                                                                                                                                               ITSMLSDVMKQNYALGLQIEYLSKQLKEISDKLDVINVNVLINSTLTEITPAYQRIKYVN 179
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IDYTFIMVEHLNKEKEEFRVNILPTLSNTFSNPNYEKARGSDKDAKIIMEAKPGYALVGF
                                                          NNLFGRSALKTASELITKENVKTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLAD
                                                                                                                              EKFEBLTFATETSSKVKKDGSPADILDELTBLTBLAKSVTKNDVDGFEFYLNTFHDVMVG
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2421 N.W. 41st Street, Suite A-1
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; Pred. No. 3.1e-216;
70; Mismatches 94;
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GENERAL INFORMATION:
APPLICANT: Feitelson, Jerald S.
APPLICANT: Schnepf, H. Ernest
APPLICANT: Schnepf, H. Ernest
APPLICANT: Narva, Kenneth E.
APPLICANT: Stockhoff, Brian A.
APPLICANT: Schmeits, James
APPLICANT: Loewer, David
APPLICANT: Dullum, Charles Joseph
APPLICANT: Muller-Cohn, Judy
APPLICANT: Stamp, Lisa
APPLICANT: Morrill, George
APPLICANT: Finstad-Lee, Stacey
TITLE OF INVENTION: No. 6242669el Pesticidal Toxins and Nucleotide
TITLE OF INVENTION: Sequences Which Encode These Toxins
NUMBER OF SEQUENCES: 144
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US-09-073-898-8
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                                                                                  ADDRESSEE: Saliwanchik, Lloyd & Saliwanchik
STREET: 2421 N.W. 41st Street, Suite A-1
CITY: Gainesville
STATE: FL
COUNTRY: US
ZIP: 32606-6669
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOPTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
**DOBLICATION DATA: TIC///73 608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 8, Application Patent No. 6242669
FILING DATE:
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 6
FILING DATE: 30-OCT-1996
                                                                            APPLICATION NUMBER:
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ORIGINAL SOURCE
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TOPOLOGY: lin
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       NFITLEISPSEKLLSPELINTNNWTSTGSTNISGNTLTLYQGGRGILKQNLQLDSFSTYR
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TELEPAX: 352-372-5800
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APPLICATION NUMBER: US 0.
FILING DATE: 30-OCT-1997
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: amino acids
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REGISTRATION NUMBER: 39
REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 MNKNNTKLSTRALPSFIDYENGIYGFATGIKDIMNMIFKTDTGGDLTLDEILKNQQLLND
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NFIISEIRPSEELLSPELIKSDAWVGSQGTWISGNSLNINSNVNGTFRQNLSLESYSTYS
                                           VKGKAAIYLKDEKNGDYIYEETINNELEDFQAVTKRFITGTDSSRVHLIFTSQNGEEAFGG
                                                                                                                                   NGSTEEDNLEPWKANNKNAYVDHTGGVNGTKALYVHKDGGISQFIGDKLKPKTEYVIQYT
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RESULT 13
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APPLICANT: Feitels
APPLICANT: Schneger
APPLICANT: Stockho
APPLICANT: Stockho
APPLICANT: Schmeit
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Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 60/029,848
FILING DATE: 30-0CT-1996
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/960,780
FILING DATE: 30-0CT-1997
PRIOR APPLICATION NUMBER: US 09/073,898
FILING DATE: 05-MAY-1998
FILING DATE: 105-MAY-1998
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: PatentIn Release #1.0, Ve

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/09/307,106
                                                                                                                                                            TELEFAX: 352-372-5800
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 790 amino acids
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APPLICANT: Finstad-L
TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                              MOLECULE TYPE:
ORIGINAL SOURCE:
                                                                                                                                                                                                                               REFERENCE/DOCKET NUMBER: MA
TELECOMMUNICATION INFORMATION:
TELEPHONE: 352-375-8100
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STREET: 24
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TOPOLOGY: lir
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STATE: FL
COUNTRY: US
                                                                                                                                                                                                                                                                               NAME: Sanders, Jay M. REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE:
                                                                 INDIVIDUAL
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JENTION: No. 6603063el Pesticidal Toxins and
ZENTION: Sequences Which Encode These Toxins
SQUENCES: 54
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Stamp, Lisa
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Dullum, Charles Joseph
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Score 3175.5; DB 2
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                                                                                                                                           Sequence 8, Application Patent No. 6656908 GENERAL INFORMATION:
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          Loewer, David
Dullum, Charles (
Muller-Cohn, Jud)
                                                                                                            Feitelson, us
                                                             Stockhoff, Brian A. Schmeits, James
                                                                                              Schnepf, H. Ernest
Narva, Kenneth E.
                                                                                                                                                                               US/09850351A
                                                                                                                               Jerald
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US-09-850-351A-8
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Best Local Similarity
Matches 621; Conserv
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SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER OF SEQUENCES: 144
CORRESPONDENCE ADDRESS:
ADDRESSEE: Saliwanchik, Lloyd & Saliwanchik
STERET: 2421 N.W. 41st Street, Suite A-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TOPOLOGY: linear MOLECULE TYPE: protein ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: US 60/029,848
FILING DATE: 30-0CT-1996
ATTORNEY_AGENT INFORMATION:
NAME: Sanders, Jay M.
REGISTRATION NUMBER: 39,355
REFERENCE_DOCKET NUMBER: MA-708CD1
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       INDIVIDUAL ISOLATE: Jav90 SEQUENCE DESCRIPTION: SEQ ID NO: 8:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 09/073,898
FILING DATE: 06-MAY-1998
APPLICATION NUMBER: US 08/960,780
FILING DATE: 30-OCT-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/850,351A
FILING DATE: 07-May-2001
CLASSIFICATION: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
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STATE: FL
COUNTRY: US
ZIP: 32606-6669
                        IDYTPIMMEHLNKEKEEFRVNILPTLSNTFSNPNYEKARGSDKDAKIIMEAKPGYALVGF
                                                                                                 NNLFGRSALKTASELIAKENLKTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLAD
                                                                                                                                                                               EKFEALTSATETNLKTKQDSSHTDILDELTELTELAKSVTKNDVDGFEFYLNTFHDVMIG
                                                                                                                                                                                                                                    TTSMLSDVMKQNYALGLQIEYLSKQLKEISDKLDVINVNVLINSTLTEITPAYQRIKYVN 179
                                                                                                                                                                                                                                                                                                                                                                                                                        MQKNN-KLSVKALPSFIDYFNGIYGFATGIKDIMNMIFKTNTGGDLTLDEILKNQQLLNE
                                                                             NNLFGRSALKTASELITKENVKTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLAD
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  IDYTSIMNEHLNKEKEEFRVNILPTLSNTFSNPNYAKVKGSDEDAKMIVEAKPGHALIGF
                                                                                                                                                         EKFEELTFATETSSKVKKDGSPADILDELTELTELAKSVTKNDVDGFEFYLNTFHDVMVG
                                                                                                                                                                                                                                                                                                                  ISGKLDGVNGSLNDLIAQGNLNTELSKEILKIANEQNQVLNDVNNKLDAINTMLRVYLPK
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STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LENGTH: 790 amino acids
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TELEFAX: 352-372-5800
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INVENTION: No. 665690
Sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         79.5%; Score 3175.5; DB 2 78.6%; Pred. No. 3.1e-216; tive 70; Mismatches 94;
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Lences Which Encode These Toxins
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US-08-471-033-29
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APPLICANT: Warren,
APPLICANT: Koziel,
APPLICANT: Mullins,
APPLICANT: Nye, Gor
APPLICANT: Carr, Br
APPLICANT: Desai, N
APPLICANT: Kostichk
APPLICANT: Duck, Ni
APPLICANT: Estrich
                                                                                                                                                                   ADDRESSEE: CIBA-GEIGY Corporation
STREET: 7 Skyline Drive
CITY: Hawthorne
STATE: NY
COUNTRY: USA
ZIP: 10532
COMPUTER READABLE FORM:
MEDIUM TYPE: Ploppy disk
COMPUTER: 1BM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30B
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/471,033
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 29, App...
Sequence 29, App...
                                                           PILING DATE:
FILING DATE:
CLASSIFICATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/:
PTITING DATE: 09-SEP-1994
                FILING DATE: 09-SEP-
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE: 23-MAR-
                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Estruch, Juan J
TITLE OF INVENTION: No. 5770696el Pesticidal Proteins
NUMBER OF SEQUENCES: 50
                                                                                                                                                                                                                                                                                                                                                                                                                                CORRESPONDENCE ADDRESS:
PRIOR APPLICATION DATA
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Desai, Nalini M
Kostichka, N. Kristy
Duck, Nicholas B
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Koziel, Michael G
Mullins, Martha A
                  23-MAR-1994
                                  US 08/218,018
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APPLICATION NUMBER: US 08/037,057
FILING DATE: 25-WAR-1993
ATTORNEY/AGENT INFORMATION:
NAME: Pace, Gary M.
REGISTRATION NUMBER: P-40,403
REFERENCE/DOCKET NUMBER: CGC 1695/CIP3/DIV7 - SQLv3
FELECOMMUNICATION INFORMATION:
TELEPHONE: 919-541-8582
ITELEPHONE: 919-541-8582
INFORMATION FOR SEQ 1D NO: 29:
SEQUENCE CHARACTERISTICS:
LENGTH: 789 amino acids
TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 79.4%; Score 3171.5; DB 1; Length 789; Best Local Similarity 78.5%; Pred. No. 6e-216; Matches 620; Conservative 71; Mismatches 94; Indels 5;
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                                                                                                                                                                                              VKGKAAIYLKDEKNGDYIYEETNNELEDFQAVTKRFITGTDSSRVHLIFTSQNGEBAFGG 659
                                                                                                                                                                                                                                                                            NGNLEGENLEPWKANNKNAYVDHTGGVNGTKVLYVHEDGEFSQPIGDKLKLKTEYVIQYI 599
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vyfsvsgdanvrirnsrevlfekryms-gakovsemfttkfekonfyielsqqnnlyggp
                                          MNFNVNGFGKVTIRNSREVVFERSYLQFSSKYISEKFTTTNNTGLYVELSRASS---RG 776
                                                                                                          NFIISEIRPSBELLSPELIKSDAWVGSQGTWISGNSLNINSNVNGTFRQNLSLESYSTYS 719
                                                                                                                                                                                                                                                      NGSIEEDNLEPWKANNKNAYVDHTGGVNGTKALYVHKDGGISQFIGDKLKPKTEYVIQYT 600
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                                                                                  NFIILEISPSEKLLSPELINTNNWTSTGSTNISGNTLTLYQGGRGILKQNLQLDSFSTYR
                                                                                                                                                                      VKGKPSIHLKDENTGYIHYEDTNNNLEDYOTINKRFTTGTDLKGVYLILKSONGDEAWGD 660
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Search completed: May 15, 2006, 20:44:55 Job time : 50 secs

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2: /cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*

3: /cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.pep:*

4: /cgn2_6/ptodata/1/pubpaa/US10A_PUBCOMB.pep:*

5: /cgn2_6/ptodata/1/pubpaa/US10B_PUBCOMB.pep:*

6: /cgn2_6/ptodata/1/pubpaa/US11_PUBCOMB.pep:*
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US-10-099-285-82
US-10-099-285-84
US-10-099-285-94
US-10-473-687-5
US-09-850-315-6
US-09-904-226-2
US-10-099-285-96
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78.9 790 4 78.4 789 4 77.2 78.9 789 4 76.9 746 3 60.7 759 4 55.9 511 55.2 2539 5 5.1 1315 5 5.1 1315 5 5.1 1315 5 13349 3 4.9 1349 3
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## ALIGNMENTS

RESULT 1 US-10-698-096-17

Sequence 17, Application US/10698096 Publication No. US20040128716A1 GENERAL INFORMATION:

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APPLICANT: Narva, Kenneth
APPLICANT: Merlo, Donald
ITITLE OF INVENTION: Polynucleotides, Pesticidal Proteins, and
FILE REFERENCE: MA-708CDC1
CURRENT APPLICATION NUMBER: US/10/698,096
CURRENT FILING DATE: 2003-10-31
PRIOR APPLICATION NUMBER: US 09/850,351
PRIOR FILING DATE: 2001-05-07
PRIOR APPLICATION NUMBER: US 09/073,898
PRIOR APPLICATION NUMBER: US 08/690,780
PRIOR FILING DATE: 1998-05-06
PRIOR FILING DATE: 1997-10-30
PRIOR PRIOR APPLICATION NUMBER: US 08/690,780
PRIOR PILING DATE: 1997-10-30
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SEQ ID NO 17
LENGTH: 786
                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 100.0%; Score 3995; DB 4; Best Local Similarity 100.0%; Pred. No. 1.1e-236; Matches 786; Conservative 0; Mismatches 0;
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NUMBER OF SEQ ID NOS: 27
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RESULT 2
US-10-473-687-2
; Sequence 2, Application US/10473687
; Publication No. US20040133942A1
; GENERAL INFORMATION:
; APPLICANT: MIGHS, Paul
; APPLICANT: Kramer, Vance
; APPLICANT: Shen, Zhicheng
; APPLICANT: Shen, Zhicheng
; APPLICANT: Warren, Greg
; APPLICANT: Warren, Greg
; TITLE OF INVENTION: Novel Pesticidal Toxins
; FILE REFERENCE: S-60000PCT
; CURRENT APLICATION NUMBER: US/10/473,687
; CURRENT FILING DATE: 2003-09-27
; NUMBER OF SEQ ID NOS: 13
; SOFTMARE: PatentIn version 3.0
; SEQ ID NO 2
; LENGTH: 787
; TYPE: PAT
; ORGANISM: Bacillus thuringiensis
US-10-473-687-2
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                                                           ISGKLDGVNGSLNDLLAQGNLDTELSKEILKIANEQNKVLNDVNTKLDAINLMLNTYLPK 119
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                                        ISGKLDGVNGSLNDLIAQGNLNTELSKEILKIANEQNQVLNDVNNKLNAINTMLHIYLPK 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILSEIRPSEELLSPELIKSDAWVGSQGTWISGNSLNINSNVNGTFRQNLSLESYSTYSM
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Pred. No. 9.8e
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APPLICANT: Symenta Participations AG
APPLICANT: Shen, Zhicheng
APPLICANT: Warren, Gregory
APPLICANT: Warren, Gregory
APPLICANT: Warren, Gregory
APPLICANT: Kramer, Vance
TITILE OF INVENTION: Novel Vip3 Toxins and Met
FILE REFERENCE: 60163PCT
CURRENT APPLICATION NUMBER: US/10/505,315
CURRENT FILING DATE: 2004-08-19
PRIOR APPLICATION NUMBER: US 60/362250
PRIOR FILING DATE: 2002-03-06
NUMBER OF SEQ ID NOS: 33
SOFTWARE: Patentin version 3.2
SEQ ID NO 7
LENGTH: 787
TYPE: PRT
ORGANISM: Bacillus thuringiensis
FEATURE:
NAME/KEY: MISC_FEATURE
LOCATION: (1)..(787)
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Publication No. US20050210545A1
GENERAL INFORMATION:
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RESULT 4
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; Sequence 54, Application US/10452002A
; Publication No. US20030236195A1
; GENERAL INFORMATION:
   APPLICANT: Jerald S. Feitelson
; APPLICANT: Kenneth E. Narva
; APPLICANT: Kenneth E. Narva
; APPLICANT: Brian A. Stockhoff
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CURRENT FILING DATE: 2003-05-30
PRIOR APPLICATION NUMBER: 09/307,106
PRIOR FILING DATE: 1999-05-07
PRIOR APPLICATION NUMBER: 09/073,898
PRIOR FILING DATE: 1998-05-06
PRIOR PPLICATION NUMBER: 09/60,780
PRIOR APPLICATION NUMBER: 09/029,848
PRIOR APPLICATION NUMBER: 60/029,848
PRIOR APPLICATION NUMBER: 60/029,848
PRIOR APPLICATION NUMBER: 60/029,848
PRIOR FILING DATE: 1996-10-30
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APPLICANT: Stacey Finstad Lee
TITLE OF INVENTION: No. US20030236195A1el Pesticidal
FILE REFERENCE: MA708C2D1
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82; Conservative
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                                     BGENLEPWKANNKNAYVDHTGGVNGTKVLYVHEDGEFSQFIGDKLKLKTEYVIQYIVKGK
                                                                                                       FLTPINGFGLVVDENSRLVTLTCKSYLRETLLATDLSNKETKLIVPPNGFISNIVENGNL
                                                                                                                                       DSMTVLKYYEAKLKQNYQVDKDSLSEVIYSDMDKLLCPDQSEQIYYTNNIVFPNEYVITK
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David Loewer
Charles J. Dullum
Judy Muller-Cohn
                                                                                        FLTPINGFGLQADENSRLITLTCKSYLRELLLATDLSNKETKLIVPPISFISNIVENGNL
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87.1%;
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Pred. No. 1.4e-206;
5; Mismatches 56;
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US-10-698-096-25
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SOFTWARE: Patentin version 3.1
SEQ ID NO 25
LENGTH: 787
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                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local :
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TITLE OF INVENTION: Polynucleotides, Pesticidal Proteins, and Novel Methods of Using
FILE REFERENCE: MA-708CDC1
CURRENT APPLICATION NUMBER: US/10/698,096
CURRENT FILING DATE: 2003-10-31
PRIOR APPLICATION NUMBER: US 09/850,351
PRIOR FILING DATE: 2001-05-07
PRIOR APPLICATION NUMBER: US 09/073,898
PRIOR APPLICATION NUMBER: US 08/690,780
PRIOR APPLICATION NUMBER: US 60/029,848
PRIOR FILING DATE: 1996-10-30
PRIOR FILING DATE: 1996-10-30
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                                                                       PIMNEHLNKEKEEFRVNILPTLSNTFSNPNYEKARGSDKDAKIIMEAKPGYALVGFEISK 363
                                                                                                                                                                        ALTSATETNLKTKQDSSHTDILDELTELTELAKSVTKNDVDGFEFYLNTFHDVMIGNNLF
SIMNEHLINKEKEEFRVNILPTLSNTFSNPNYAKVKGSDEDAKMIVEAKPGHALVGFEISN
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                                                                                                      GRSALKTASELTAKENVKTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLADIDYT
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US-10-698-096-27
; Sequence 27, Application US/10698096
; Publication No. US20040128716A1
; GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOFTWARE: PatentIn version 3.1
SEQ ID NO 27
LENGTH: 788
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APPLICANT: Nerlo, Donald
ITILE OF INVENTION: Polynucleotides, Pesticidal Proteins, and Novel Methods of Using
FILE REFERENCE: MA-708CDC1
CURRENT APPLICATION NUMBER: US/10/698,096
CURRENT FILING DATE: 2003-10-31
PRIOR APPLICATION NUMBER: US 09/850,351
PRIOR FILING DATE: 2001-05-07
PRIOR PRIOR PRIOR PRIOR DATE: 1996-05-06
PRIOR APPLICATION NUMBER: US 09/073,898
PRIOR APPLICATION NUMBER: US 08/690,780
PRIOR PRIOR APPLICATION NUMBER: US 08/690,780
PRIOR PRIOR APPLICATION NUMBER: US 08/690,780
PRIOR FILING DATE: 1996-10-30
PRIOR FILING DATE: 1996-10-30
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                         124 LSDVMKQNYALGLQIEYLSKQLKEISDKLDVINVNVLINSTLTEITPAYQRIKYVNEKFE 183
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  LSDVMKQNYALSLQVEYLSKQLKEISDKLDVINVNVLINSTLTEITPAYQRIKYVNEKFE
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ilarity 87.1%;
Conservative 4
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; Pred. No. 1.4e-206;
45; Mismatches 56;
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RESULT 7

US-10-473-687-7

US-10-473-687-7

Sequence 7, Application US/10473687

Publication No. US20040133942A1

GENERAL INFORMATION:

APPLICANT: Miles, Paul
APPLICANT: Kramer, Vance
APPLICANT: Shen, Zhicheng
APPLICANT: Warren, Greg
TITLE OF INVENTION: NOVel Pesticidal Toxins
FILE REFERENCE: S-60000PCT
CURRENT APPLICATION NUMBER: US/10/473,687

CURRENT PILING DATE: 2003-09-27

NUMBER OF SEQ ID NOS: 13

SOPTWARE: Patentin version 3.0

SEQ ID NO 7
LENGTH: 787

TYPE: PRT
ORGANISM: Artificial Sequence
PEATURE:
NAME/KEY: misc_feature
LCCATION: (1)...(787)

OTHER INFORMATION: Hybrid Vip3A-B Toxin
US-10-473-687-7
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Sequence 32, Application US/10505315
PUBLICATION NO. US/20050210545A1
GENERAL INFORMATION:
APPLICANT: Syngenta Participations AG
APPLICANT: Shen, Zhicheng
APPLICANT: Shen, Zhicheng
APPLICANT: Warren, Gregory
APPLICANT: Kramer, Vance
TITLE OF INVENTION: Novel Vip3 Toxins and Methods of
FILE REFERENCE: 60163PCT
CURRENT APPLICATION NUMBER: US/10/505,315
CURRENT APPLICATION NOVEL VIP3 TOXINS AND METHODS OF
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NAME/KEY: MISC_FEATURE
LICCATION: (11...(788)
OTHER INFORMATION: Vip3C-12168 to US-10-505-315-32
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Matches 634;
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PRIOR FILING DATE: 2002-03-06
NUMBER OF SEQ ID NOS: 33
SOFTWARE: PatentIn version 3.2
SEQ ID NO 32
LENGTH: 788
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                                            ASGPENUTVRNGREVLFERSNLMSSTSHISGTFKTESNNTGLYVELSRRSGGGGHISFEN
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Pred. No. 1.6e-190;
5; Mismatches 84;
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APPLICANT: Syngenta Participations AG
APPLICANT: Shen, Zhicheng
APPLICANT: Warren, Gregory
APPLICANT: Shetkoski, Frank
APPLICANT: Shetkoski, Vance
TITLE OF INVENTION: Novel vip3 Toxins and Methods of Use
TITLE OF INVENTION NUMBER: US/10/505,315
CURRENT APPLICATION NUMBER: US/60/362250
PRIOR APPLICATION NUMBER: US 60/362250
PRIOR APPLICATION NUMBER: US 60/362250
PRIOR APPLICATION NUMBER: US 50/362250
PRIOR APPLICATION NUMBER: US 50/362250
PRIOR APPLICATION NUMBER: US 50/362250
PRIOR TILING DATE: 2002-03-06
NUMBER OF SEQ ID NOS: 33
SOFTWARE: Patentin version 3.2
SEQ ID NO 2
SEQ ID NO 2
SEQ ID NO 2
SEQ ID NO 3
NAMEJKEY: MISC FEATURE
FEATURE:
NAMEJKEY: MISC FEATURE
LOCATION: (1)...(788)
OTHER INFORMATION: Vip3C Toxin
OTHER INFORMATION: The Xaa at position 738 is either the amino acid Glu or Gly.
US-10-505-315-2
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US-10-505-315-2
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Best Local Similarity
Matches 636; Conserv
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                                                  ISETFLTPINGFGLQADENSRLITLTCKSYLRELLLATDLSNKETKLIVPPSGFISNIVE
                                                                       ISETFLTPINGFGLVVDENSRLVTLTCKSYLRETLLATDLSNKETKLIVPPNGFISNIVE
                                                                                                                  VITKIDFTKKMKTLRYEVTANFYDSSTGEIDLNKKKVESSEAEYRTLSANDDGVYMPLGV
                                                                                                                                       VITKIAFTKKLNSLRYEVTANFYDSSTGDIDLNKKKIESSEAEFSMLNANNDGVYMPIGT
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FILE REFERENCE: 60163PCT
CURRENT APPLICATION NUMBER: US/10/505,315
CURRENT FILING DATE: 2004-08-19
PRIOR APPLICATION NUMBER: US 60/362250
PRIOR FILING DATE: 2002-03-06
PRIOR FILING DATE: 2002-03-06
NUMBER OF SEQ ID NOS: 33
SOFTWARE: Patentin version 3.2
SEQ ID NO 11
LENGTH: 788
TYPE: PRT
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; OTHER INFORMATION: Hybrid Vip3A-C toxin
US-10-505-315-11
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US-10-505-315-11
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Best Local Similarity
Matches 634; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Syngenta Participations AG
APPLICANT: Shen, Zhicheng
APPLICANT: Warren, Gregory
APPLICANT: Shotkoski, Frank
APPLICANT: Kramer, Vance
TITLE OF INVENTION: Novel Vip3 Toxins and Methods of Use
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                                          IDYTPIMNEHLNKEKEEFRVNILPTLSNTPSNPNYEKARGSDKDAKIIMEAKPGYALVGF
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                        IDYTSIMNEHLNKEKEEFRVNILPTLSNTFSNPNYAKVKGSDEDAKMIVEAKPGHALIGF
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80.5%;
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Pred. No. 5.3e-190;
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US-10-099-285-82
; Sequence 82, Application US/10099285
; Publication No. US20030105319A1
; GENERAL INFORMATION:
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                                                 APPLICATION NUMBER: US/10/099,285
FILING DATE: 15-Mar-2002
CLASSIFICATION: CURRIOWN>
PRIOR APPLICATION DATA:
APPLICATION UNMBER: 09/002,285
FILING DATE: -UNknown>
APPLICATION NUMBER: US 08/886,615
FILING DATE: 1-JUL-1997
APPLICATION NUMBER: US 08/674,002
FILING DATE: 1-JUL-1996
ATTORNEY/ACENT INFORMATION:
                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn
                                                                                                                                                                                                                                                     CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Stockhoff, Brian
Muller-Cohn, Judy
TITLE OF INVENTION: Toxins I
NUMBER OF SEQUENCES: 105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Schnepf,
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NAME: Sanders, Jay M.
REGISTRATION NUMBER: 39,355
REFERENCE/DOCKET NUMBER: MA-701C2
                                                                                                                                                                                                                                                                                                                                                                              STATE: Florida COUNTRY: USA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NGNLEGENLEPWKANNKNAYVDHTGGVNGTKVLYVHEDGEFSQFIGDKLKLKTEYVIQYI 599
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                                                                                                                                                                                                                                                                                                                                                                                                                                   STREET: 2421 N.W. 41st Street,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        KFTILEIKPAEDLLSPELINPNSWITTPGASISGNKLFINLGTNGTFRQSLSLNSYSTYS
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                                                                                                                                                                                                                                                                                                                                                                                                                 CITY: Gainesville
                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADDRESSEE:
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Narva, Kenneth E.
Walz, Michelle
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US-10-099-285-82

LENGTH: 789 amino acids
TYPE: amino acid

Query Match 79.7 Best Local Similarity 79.0 Matches 624; Conservative

79.7%;

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TELECOMMUNICATION INFORMATION:
TELEPHONE: (352) 375-8100
TELEPAX: (352) 372-5800
INFORMATION FOR SEQ ID NO: 82:
SEQUENCE CHARACTERISTICS:
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TOPOLOGY: linear
MOLECULE TYPE: protein
SEQUENCE DESCRIPTION: SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 MQKNN-KLSVKALPSFIDYFNGIYGFATGIKDIMNMIFKTNTGGDLTLDBILKNQQLLNB
                                                                                VYFSVSGDANVRIRNSREVLFEKRYMS-GAKDVSEMFTTKFEKDNFYIELSQGNNLYGGP
                                                                                                                 MNFNVNGFGKVTIRNSREVVFERSYLQFSSKYISEKFTTTTNNTGLYVELSRASS---RG
                                                                                                                                                                                               NFIISEIRPSEELLSPELIKSDAWVGSQGTWISGNSLNINSNVNGTFRQNLSLESYSTYS 719
                                                                                                                                                                                                                                        VKGKPSIHLKDENTGYIHYEDTNNNLKDYQTITKRFTTGTDLKGVYLILKSQNGDEAWGD
                                                                                                                                                                                                                                                                                                                                          NGNLEGENLEPWKANNKNAYYDHTGGVNGTKVLYVHEDGEFSQPIGDKLKLKTEYVIQYI 599
                                                                                                                                                          NGSIEEDNLEPWKANNKNAYVDHTGGVNGTKALYVHKDGGFSQFIGDKLKPKTEYVIQYT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EISKDSIAVLKYYQAKLKHNYQIDKDSLSEIVYGDIDKLLCPDQSBQMYYTNKIAFPNEY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IDYTPIMNEHLNKEKEEFRVNILPTLSNTFSNPNYEKARGSDKDAKIIMEAKPGYALVGF 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NNLFGRSALKTASELIAKENVKTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLAD
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; Pred. No. 8.8e-187;
69; Mismatches 92;
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US-10-099-285-84
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Best Local Similarity
Matches 623; Conserv
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Publication No. US20030105319A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEPHONE: (352) 375-
TELEPAX: (352) 372-55
INFORMATION FOR SEQ ID NO: 84:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: 09/002,285
APPLICATION NUMBER: US 08/886,615
APPLICATION NUMBER: US 08/886,615
FILING DATE: 1-UUL-1997
APPLICATION NUMBER: US 08/674,002
FILING DATE: 1-UUL-1996
ATTORNEY/ACENT INFORMATION:
NAME: Sanders, Jay M.
REGISTRATION NUMBER: 39,355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER: IBM PC Compatible
OPERATING YSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/10/099,285
FILING DATE: 15-Mar-2002
CLASSIFICATION: <Unknown>
PRIOR APPLICATION DATA:
APPLICATION DATA:
APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                        TOPOLOGY: linear MOLECULE TYPE: protein SEQUENCE DESCRIPTION: SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE/DOCKET NUMBER:
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CORRESPONDENCE ADDRESS:
ADDRESSEE: Saliwanchik,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Muller-Cohn, Judy
TITLE OF INVENTION: Toxins Active Against Pests
NUMBER OF SEQUENCES: 105
                  180
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                                                                                                                                                                                                                                  MQKNN-KLSVKALPSFIDYFNGIYGFATGIKDIMNMIFKTNTGGDLTLDBILKNQQLLNE
EKFEALTSATETNIKTKQDSSHTDILDELTELTELAKSVTKNDVDGFEFYINTFHDVMIG 239
                                                                       ITSMLSDVMKQNYALGLQIEYLSKQLKEISDKLDVINVNVLINSTLTEITPAYQRIKYVN 179
                                                 ITSMLSDVMKQNYALSLQIEYLSKQLQEISDKLDIINVNVLINSTLTEITPAYQRIKYVN
                                                                                                                                                    ISGKLDGVNGSLNDLLAQGNLDTELSKEILKIANEQNKVLNDVNTKLDAINLMLNTYLPK 119
                                                                                                                               ISGKLDGVNGSLNDLIAQGNLNTELSKEILKIANEQNQVLNDVNNKLDAINTMLHIYLPK 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                     STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH: 789 amino acids
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COUNTRY: USA
                                                                                                                                                                                                                                                                                               Conservative
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Narva, Kenneth E.
Walz, Michelle
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                                                                                                                                                                                                                                                                                       79.6%; Score 3180.5; DB 4; 78.9%; Pred. No. 1.2e-186; tive 70; Mismatches 92;
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VINFGDFSIK 786

IVHFNDVSIK

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RESULT 13
US-10-099-285-92
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Publication No. US20030105319A1
GENERAL INFORMATION:
COMPUTER REALIBLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIAN
CURRENT APPLICATION NUMBER: US/10/099,285
PILING DATE: 15-Mar-2002
CLASSIFICATION EATH.
PRIOR APPLICATION DATA:
APPLICATION DATA:
APPLICATION NUMBER: 09/002,285
PRIOR APPLICATION NUMBER: 09/002,285
                                                                                                                                                                                                      CORRESPONDENCE ADDRESS:
ADDRESSEE: Saliwanchik, Lloyd & Saliw
STREET: 2421 N.W. 41st Street, Suite
CITY: Gainesville
STATE: Florida
COUNTRY: USA
                                                                                                                                                                                                                                                                                                            Muller-Cohn, Judy TITLE OF INVENTION: Toxins AV NUMBER OF SEQUENCES: 105
                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       199
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                                                                                                                                                                                           ZIP: 32606
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Best Local Similarity
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INFORMATION FOR SEQ ID NO: 92:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE: <Unknown>
APPLICATION NUMBER: US 08
FILING DATE: 1-JUL-1997
APPLICATION NUMBER: US 08
FILING DATE: 1-JUL-1996
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TOPOLOGY: linear MOLECULE TYPE: protein SEQUENCE DESCRIPTION: 9
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REGISTRATION NUMBER: 39,355
REFERENCE/DOCKET NUMBER: MA-701C2
TELECOMMUNICATION INFORMATION:
     661
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TYPE: amino acid
STRANDEDNESS: single
     NFILLEISPSEKLLSPELINTNNWTSTGSTHISGNTLTLYQGGRGILKQNLQLDSFSTYR
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372-5800
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Pred. No. 2.1e-186;
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APPLICANT: Warren, Greg
FILE OF INVENTION: Novel Pesticidal Toxins
FILE REFERENCE: S-60000PCT
CURRENT APPLICATION NUMBER: US/10/473,687
CURRENT FILING DATE: 2003-09-27
NUMBER OF SEQ ID NOS: 13
SOFTWARE: Patentin version 3.0
SEQ ID NO 5
LENGTH: 789
TYPE: PAT
ORGANISM: Bacillus thuringiensis
US-10-473-687-5
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US-10-473-687-5
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Publication No. US20040133942A1
GENERAL INFORMATION:
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Best Local :
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APPLICANT: Krame
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79.5%; Score 3175.5;
Similarity 78.6%; Pred. No. 2.4e
21; Conservative 70; Mismatches
                                                                                                         VITKIAFTKKLNSLRYEVTANFYDSSTGDIDLNKKKIESSEAEFSMLNANNDGVYMPIGT
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Shen, Zhicheng
Shotkoski, Frank
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FITTLE OF INVENTION: Novel Vip3 Toxins and Methods of
FILE REFERENCE: 60163PCT
CURRENT APPLICATION NUMBER: US/10/505,315
CURRENT FILING DATE: 2004-08-19
PRIOR APPLICATION NUMBER: US 60/362250
PRIOR FILING DATE: 2002-03-06
NUMBER OF SEQ ID NOS: 33
SOFTWARE: Patentin version 3.2
SEQ ID NO 5
LENGTH: 789
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; NAME/KEY: MISC FEATURE
; LOCATION: (1)...(789)
; OTHER INFORMATION: Vip3A toxin
US-10-505-315-5
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APPLICANT: Syngenta Participations
APPLICANT: Shen, Zhicheng
APPLICANT: Warren, Gregory
APPLICANT: Shotkoski, Frank
APPLICANT: Kramer, Vance
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Publication No. US20050210545A1
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TYPE: PRT
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                                                      NNLFGRSALKTASELIAKENLKTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLAD 299
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                               NNLFGRSALKTASELITKENVKTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLAD
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Search completed: May 15, 2006, 20:47:49 Job time: 171 secs

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11 US-11-045-004-1251

9 US-10-909-769-24

11 US-11-045-004-116

9 US-10-793-626-1780

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14 US-11-052-554A-280

15 US-11-052-554A-280

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17 US-11-054-004-34

18 US-11-054-33-42

19 US-11-074-176-134

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Sequence 141, Appl
Sequence 17160, A
Sequence 19, Appl
Sequence 19, Appl
Sequence 161, Appl
Sequence 161, Appl
Sequence 2151, Ap
Sequence 2116, Appl
Sequence 2116, Appl
Sequence 280, Appl
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## ALIGNMENTS

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								Query Match Best Local : Matches 18	; ORGANISM: SCA) US-10-485-517-141	dAL.	LEN	SEQ ID NO 141	SOFTWARE: PatentIn version 3.1	NUMBER OF SEQ ID NOS: 424	PRIO	ROL RG	PRIO	CURR	CURR	FILE	TITL	APPLICANT:	ATT	APPL	GENERAL INFORMATION:	Publication No. US20050256299A1	1
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                                                                                                                                                                                                                                                                                                                                    Sequence 41, Application US/11051453 Publication No. US20050287150A1 GENERAL INFORMATION:
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APPLICANT:
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CURRENT APPLICATION NUMBER: US/11/051,453
CURRENT FILING DATE: 2005-02-04
PRIOR APPLICATION NUMBER: 60/542,357
PRIOR FILING DATE: 2004-02-06
PRIOR APPLICATION NUMBER: 60/613,854
                                                                                             APPLICANT: ZHANG, HUI-FEN
TITLE OF INVENTION: ANTIBODIES AGAINST
TITLE OF INVENTION: USES THEREOF
FILE REFERENCE: MJI-001
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I: BARCOCK, GREGORY J.
I: BROEKING, THERESA
I: GRAZIANO, ROBERT
I: HERNANDEZ, HECTOR JAVIER
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MOLRINE, DEBORAH
THOMAS, JR., WILLIAM D.
ZHANG, HUI-FEN
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             ---GLDSKNIAYNYTDESNNKYFGAISKTSQKSIIHYKKDSKNILEFYNDSTLEFNSKDF 1508
                                                 FITGTDSSRVHLIFTSQNGEEAFGG-----NFIISEIRPSEELL------SPEL
                                                                                                                          GDK------LKLKTEYVIQYIVKGKA-AIYLKDEKNGDYIYEETNNELEDFQAVTKR
                                                                                                                                                                                            GNLEGENLEPWKANNKNAYVDHTGG------VNGTKVLYVHEDGEFSQFI 584
                                                                                                                                                                                                                                                                                                           PNAPSRVFWWETGAVPGLRSLENDGTRL-LDSIRDLYPGKFYWRFYAFFDYAITTLKPVY 1283
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                                                                                     DNKDRYIFLTCELDDKISLIIEINLVAKSYSLLLSGDKN--YLISNLSNTIEKINTL---
                                                                                                                                                            INLSKDDLWIFNIDNEVREISIENGTIKKGKLIKDVLSKIDINKNKLIIGNQTIDFSGDI
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APPLICANT: Abad, Mark S. et al.
TITLE OF INVENTION: Genes and Uses for Plant
FILE REFERENCE: 38-21(53450) B EP;
CURRENT APPLICATION NUMBER: US/11/087,099;
CURRENT FILING DATE: 2005-03-22;
NUMBER OF SEQ ID NOS: 12464
SEQ ID NO 12160
LENGTH: 1778
TYPE: PRT
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US-11-087-099-12160
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US-11-087-099-12160
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Publication No. US20060041961A1
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                                                                                                                                                                                      GVPKLRILDLQNNYLNYTGTEGNLSSLSDLTNLTELNLRNNVYIDDISGLSTLSRLIYLN
                                       ITKIAPTKKLNS---LRYEVTANFYDSSTGDIDLNKKKIESSEAEFSMLNANNDGVYMPI
                                                                               VVDLNTFGEYEVTLTSEKDGIQGDSCKVIVKVLHGAPVISADQT-----ISYDKHAT
                                                                                                                                                                                                                                              NYKDGKITWTNMTATSSSTLF---
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ITEKQFLEDIHASTDLDTAITTNF---STA-VNLNK----GGDYTVALNSENEDGVK---
                                                                                                                     -----NYQIDKDSLSEIVYGDIDK------LLCPDQSEQMYYTNKIAFPNEYV
                                                                                                                                                          VTQP-YKSA-----AKVTADAEQTYT-IGDTISEEQF--LKDVNAKSSDGAPVTSDFAT 906
                                                                                                                                                                                                                                                                             NF---LIVLTALQAKAFLTLTTCRKLLGLADIDYTPIMNEHLNKEKEEFRVNILPTLSNT
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20.2%; Pred. No. 0.069;
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E OF INVENTION: LISTERIA MONOCYTOGENES REFERENCE: 05394.0018-02
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                    INVENTION:
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BERCHE, PATRICK
CHARBIT, ALAIN
DURANT, LIONEL
PEREZ-DIAZ, JOSE-CLAUDIO
BAQUERO, FERNANDO
GARCIA DEL PORTILLO, FRANC
GOMEZ-LOPEZ, NURIA
MADUENIO, ENCARNA
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PABLOS, BETRIZ DE
WEHLAND, JURGEN
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GARRIDO-GARCIA, PATRICIA
TIERREZ-MARTINEZ, ALBERTO
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KREFT, JURGEN
                                                      ROSE, MATTHIAS
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Matches 190; Query Match

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US-11-045-004-19
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CURRENT FILING DATE: 2005-01-28
PRIOR APPLICATION NUMBER: 10/637,657
PRIOR FILING DATE: 2003-08-11
PRIOR APPLICATION NUMBER: 10/257,023
PRIOR FILING DATE: 2002-10-08
PRIOR APPLICATION NUMBER: PCT/FR01/01118
PRIOR APPLICATION NUMBER: PCT/FR01/01118
PRIOR APPLICATION NUMBER: FR 00/04,629
PRIOR FILING DATE: 2000-04-11
PRIOR FILING DATE: 2000-04-11
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PRIOR FILING DATE: 2000-04-11
NUMBER OF SEQ ID NOS: 2854
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Best Local Similarity
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                                 DKL-KLKTEYVIQY--IVKGKAAIYLKDEKNGDYIYEETNNELE-DFQAVTKRFITGTDS
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-KIATISTNTAQQYEKYAKINETQFLKD-VHASINASPTTAVLESDFETVVKLDVPGTYT
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APPLICANT: BUCHRIESER, CARMEN
APPLICANT: FRANGEUL, LIONEL
APPLICANT: COUVE, ELISABETH
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Publication No.
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PRIOR APPLICATION NUMBER: 10/257,023
PRIOR TILING DATE: 2002-10-08
PRIOR APPLICATION NUMBER: PCT/FR01/01118
PRIOR FILING DATE: 2001-04-11
PRIOR APPLICATION NUMBER: FR 00/04,629
PRIOR FILING DATE: 2000-04-11
                                                                                                                                       TITLE OF INVENTION: LISTERIA MONOCYTOGENES FILE REFERENCE: 05394.0018-02 CURRENT EPLICATION NUMBER: US/11/045,004 CURRENT FILING DATE: 2005-01-28 PRIOR APPLICATION NUMBER: 10/637,657
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APPLICANT:
SOFTWARE: PatentIn version 3.3
                 NUMBER OF SEQ ID NOS: 2854
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ROSE, MATTHIAS
VOSS, HAMUT
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CHARBIT, ALAIN
DURANT, LIONEL
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DANIELS, JUSTIN
GOEBEI, WERNER
KREFT, JURGEN
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PABLOS, BETRIZ DE
WEHLAND, JURGEN
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GLASER, PHILIPPE
KUNST, FRANCK
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No. US20060078901A1
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GARCIA DEL PORTILLO,
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HAIN, THORSTEN
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GARRIDO-GARCIA, PATRICIA
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FSIHI, HAFIDA
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RESULT 6
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; TYPE: PRT
; ORGANISM: Listeria
US-11-045-004-41
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Sequence 169, Application US/1087856A
Publication No. US20050266399A1
GENERAL INFORMATION:
APPLICANT: Hoffmann La-Roche Inc.
TITLE OF INVENTION: HCV regulated protein expression
FILE REFERENCE: 21762
CURRENT APPLICATION NUMBER: US/10/878,556A
CURRENT FILING DATE: 2004-06-28
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LENGTH:
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Best Local Similarity
Matches 157; Conserv
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                                                                                                                                                                                                                           TTTNN----TGLYVELSRASS 774
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RESULT 7 US-11-045-004-1251

Sequence 1251, Application US/11045004
Publication No. US20060078901A1
GENERAL INFORMATION:
APPLICANT: BUCHRIESER, CARMEN
APPLICANT: FRANGEUL, LIONEL
APPLICANT: COUVE, ELISABETH
APPLICANT: RUSNIOK, CHRISTOPHE

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SOFTWARE: Patentin version 3.1
SEQ ID NO 169
LENGTH: 1404
TYPE: PRT
ORGANISM: Homo sapiens
PUBLICATION INFORMATION:
DATABASE ACCESSION NUMBER: humangp/chr12-q14221
DATABASE ENTRY DATE: 2003-04-22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
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LKDQVKKEEEELKKEFIEKEAKLHSE
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                                    IISBIRPSEELLSPELIKSDAWVGSQ
                                                                                                       GDYIYEETNNELEDFQAVTKRFITGTDSSRVHLI-----FTSQNGEEAFGGNF
                                                                                                                                          LEQD-----SAKKEQQLQERCKALQDIQKEKSLKEKELVN--EKSKLAEIEEIKCRQEKE
                                                                                                                                                                           AYVDHTGGVNGTKVLYVHEDGEFSQFIGDKLKLKTEYVIQYIVKGKAA----IYLKDEKN 613
                                                                                                                                                                                                                                            LVTLTCKSYLRET-LLAT--DLSNKETKLIVPPNGFISNIVBNGNLEGENLEPWKANNKN
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                                                                     ----ITKLNEELKSHKLESIKEITNLKDAKQLLIQQKLELQGKADSLKAAVEQEKRNQQI
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                                                                                                                                                                                                                                                                                ---QAAQELAAEKEKI------SVLQNNYE-----KSQETFKQLQSDF------
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Pred. No. 0.12;
ll; Mismatches
   1214
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US-11-045-004-1251
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SEQ ID NO 1251
LENGTH: 896
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                                                                                                                                                                                                                                                                                                         Query Match
Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRIOR APPLICATION NUMBER: 10/637,657
PRIOR FILING DATE: 2003-08-11
PRIOR APPLICATION NUMBER: 10/257,023
PRIOR FILING DATE: 2002-10-08
PRIOR APPLICATION NUMBER: PCT/FR01/0:
PRIOR FILING DATE: 2001-04-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRIOR FILING DATE: 2000-04-11
NUMBER OF SEQ ID NOS: 2854
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE OF INVENTION: LISTERIA MONOCYTOGENES FILE REFERENCE: 05394.0018-02 CURRENT APPLICATION NUMBER: US/11/045,004 CURRENT FILING DATE: 2005-01-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR APPLICATION NUMBER: FR 00/04,629
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            178
                                               275
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                                                                                                                                                                                                                                                                                                       Similarity
                                                                                YALGLQIEYLSKQLKEISDKLDVI---NVNVLIN----STLTEITPAYQRIKY---
                                                                                                                   SGATTIVNQISSEFVGTVSKAVLEEFNKAGIDLENELPTIRRLKTKVFQVQDALPELKKM
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CHARBIT, ALAIN
DURANT, LIONEL
PEREZ-DIAZ, JOSE-CLAUDIO
BAQUERO, FERNANDO
GARCIA DEL PORTILLO, FRANC
GOMEZ-LOPEZ, NURIA
MADUENIO, ENCARNA
                                         KKIP-BIKQIAESVKEVDENFGTIKKTVNDAVNESGKALDVIDTAMAAIPTVEKIAQNGS
                                                                                                                                                             GNLDTELSKEILKIANEQNKVLNDVNTKLDAIN-----LMLNTYLPKITSMLSDVMKQN 131
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PABLOS, BETRIZ DE
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HAIN, THORSTEN
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DOMINGUEZ-BERNAL, GUSTAVO
GARRIDO-GARCIA, PATRICIA
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GLASER, PHILIPPE
KUNST, FRANCK
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KREFT, JURGEN
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Pred. No. 0.0
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CURRENT APPLICATION NUMBER: US/L0/909,769
CURRENT FILING DATE: 2004-08-02
NUMBER OF SEQ ID NOS: 34
SOFTWARE: PatentIn version 3.3
SEQ ID NO 24
LENGTH: 834
TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 24, Application US/10909769 Publication No. US20060024331A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Fernandez-Salas,
APPLICANT: Steward, Lance E
APPLICANT: Lin, Wei-Jen
APPLICANT: Aoki, Kei Roger
APPLICANT: Sachs, George
                                                                                                                                                                                                                                                                                                                                                                                                    FEATURE:
156 NVNVLINSTLTEITPAYQRIKYVNEKFEALTSATETNLKTKQDSSHTDILDELTE----
                                                                                                                                                                                              126 LGYSNKIYTFLPSLAEKVNKGVQAGLFLNWANEVVEDFTTNIMKKDTLDKISDVSVIIPY 185
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                                                                                                                                                                                                                                     16 IDYFNGIYGFATGIKDIMM-------IFKTNTGGDLTLDEILKNQQLLNE 59
                                     NCLEQRVKRWKDSYQWMVSNWLSRITTQFNHINYQMY-----DSLSYQADAIKAKIDL-
                                                                                                                 IGPALNIGNSALRGNFNQAFATAGVAFLLEGFPEFTIPALGVFTFYSSIQEREKIIKTIE
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19.7%;
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Pred. No. 0.11;
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US-11-045-004-2116
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Publication No. US20060078901A1
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APPLICANT:
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APPLICANT:
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APPLICANT: FRANGEUL, LIONEL
APPLICANT: COUVE, ELISABETH
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                                                                                             GLASER, PHILIPPE
KUNST, FRANCK
COSSART, PASCALE
DANIELS, JUSTIN
GOEBEI, WERNER
KREFT, JURGEN
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                                                                               KCHIN,
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   DOMINGUEZ-BERNAL, GUSTAVO GARRIDO-GARCIA, PATRICIA
                                       NG, EVA
VAZQUEZ-BOLAND, ANTONIO
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US-11-045-004-2116
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FILE REFERENCE: 05394.0018-02
CURRENT APPLICATION NUMBER: US/11/045,004
CURRENT FILING DATE: 2005-01-28
PRIOR APPLICATION NUMBER: 10/637,657
PRIOR FILING DATE: 2003-08-11
PRIOR FILING DATE: 2003-08-11
PRIOR APPLICATION NUMBER: 10/257,023
PRIOR FILING DATE: 2002-10-08
PRIOR APPLICATION NUMBER: PCT/FR01/01118
PRIOR APPLICATION NUMBER: PCT/FR01/01118
PRIOR FILING DATE: 2001-04-11
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SEQ ID NO 2116
LENGTH: 1959
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Best Local Similarity 19.8%; Pred. No. 0.35;
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PRIOR FILING DATE: 2000-04-11
NUMBER OF SEQ ID NOS: 2854
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396 DKLLCPDQSEQMYYTNKIAFPNEYVITKIAFTKKLNSL----RYEVTANFYDSSTGDIDL 451
                                   431 NKNODTIFFROTVEAKP-----
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                                                                                                                                            RKLLGLADIDYTPIMNEHLNKEKEEFRVNILPTLSN-TFSNPNYEK-----ARGSDKDA-
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CHARBET, ALAIN
DURANT, LIONEL
PEREZ-DIAZ, JOSE-CLAUDIO
BAQUERO, FERNANDO
GARCIA DEL PORTILLO, FRANC
                                                                         -----KIIMEAKPGYALVGFEISKDSIAVLKVYQAKLKHNYQIDKDSLSEIVYGDI
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HAIN, THORSTEN
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SEQ ID NO 1780
LENGTH: 1155
                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
Matches 170; Conserv
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                                                                                                                                                                                                                                                                                                                                      -10-793-626-1780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FILE REFERENCE: PU3480US
CURRENT APPLICATION NUMBER: US/10/793,626
CURRENT FILING DATE: 2004-03-04
PRIOR APPLICATION NUMBER: 60/164,258
PRIOR FILING DATE: 1999-11-09
NUMBER OF SEQ ID NOS: 4472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: KIMMERLY, WILLIAM JOHN
TITLE OF INVENTION: STAPHYLOCOCCUS EPIDERMIDIS NUCLEIC ACIDS AND PROTEINS
                                                                                                                                                                                                                                                                                                                                                 OTHER INFORMATION: Description of Artificial Sequence: OTHER INFORMATION: amino acid sequence
                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM: Artificial Sequence FEATURE:
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LTSATETNIKTKQDSSHTDILDELTELTELAKSVTKND--VDGFEFYLNTFHDVMIGNNL
                                                                                                                                                          NKVLNDVNTKLDAINLMLNTYLPKITSMLSDV------MKQNYAL------
                                                   IKYGQYIRPGGLELPAIKTQLR---SKDGSIVANGVYDKTTN--TTTYTFTNYV-DQYQN
                                                                                                                                                                                          INEAIIAEALKKDFSNPDYGVDTPL-----ALNTSQSKNSPHKSASPRMNLMSLAAEP
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                                                                PRIOR APPLICATION NUMBER: US 09/540,209
PRIOR FILING DATE: 2000-04-04
NUMBER OF SEQ ID NOS: 10444
SEQ ID NO 5584
LENGTH: 1249
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                                                                                                                                                                                                                                                                                                           Sequence 5584, Application US/11079463
Publication No. US20060073161A1
                                                                                                                                             APPLICANT: GATY L. Breton
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES
TITLE OF INVENTION: FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: PATHOO-03DIV2
CURRENT APPLICATION NUMBER: US/11/079,463
CURRENT FILING DATE: 2005-03-14
PRIOR APPLICATION NUMBER: US 60/128,705
PRIOR FILING DATE: 1999-04-09
PRIOR FILING DATE: 1999-04-09
                            ORGANISM: B.fragilis
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RESULT 12
US-11-052-54A-280
US-11-052-54A-280
Sequence 280, Application US/11052554A
Publication No. US20050288866A1
GENERAL INFORMATION:
APPLICANT: Sachdeva, et al.
TITLE OF INVENTION: COMPUTATIONAL METHOD FOR TITLE OF INVENTION: PROTEINS OF THERAPEUTIC FILE REFERENCE: 30853/40359A
CURRENT APPLICATION NUMBER: US/11/052,554A
CURRENT FILLING DATE: 2005-02-07
PRIOR APPLICATION NUMBER: US 60/589,227
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Similarity 18.7%;
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US-11-123-241-125
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CURRENT FILING DATE: 2005-05-06
PRIOR APPLICATION NUMBER: US/09/769,736
PRIOR FILING DATE: 2003-02-14
PRIOR APPLICATION NUMBER: GB 9816335.5
PRIOR FILING DATE: 1998-07-27
PRIOR APPLICATION NUMBER: US 60/125163
PRIOR FILING DATE: 1999-03-19
PRIOR FILING DATE: 1999-03-19
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SOFTWARE: PatentIn Ver. 2
SEQ ID NO 125
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APPLICANT: Hanniffy, Sean B
TITLE OF INVENTION: Proteins
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                                                                                                                    NGNLEGENLEPWKANNKNAYVDHTGGVNGTKVLYVHEDGEFSQFIGDXLKLKTEYVIQYI
                                     VKGKAAIYLKDEKNGDYIYEETNNELEDFQAVTKRFITG--TDSSRVHLIFTSQNGEEAF
                                                                                                                                                          VPONOLSVMSNEGYAINSGYIYLYWRDY--NWVYPFDPKTKKVSATKQIKTHGEPTTLYF
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                                                                                 NGNIRPKGYDIFTVGI-----
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                                                                                                                                                                                                                                                                                                                       ----FNPYISTSYONOFNS--------FLNKI--PDRSGILOEDFI
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DDTN--KIYDELNKYFKTIVEEKHSIVDGNVTDPMGEMIEFQLKNGQSFT
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                                                                             --GVNGDPGATPLEAEKFMQSISSKTENYTNV-----
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SEQ ID NO 2964
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 2964, Application US/10793626 Publication No. US20050255478A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches 156;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CURRENT APPLICATION NUMBER: US/10/793,626
CURRENT FILING DATE: 2004-03-04
PRIOR APPLICATION NUMBER: 60/164,258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: KIMMERLY, WILLIAM JOHN
TITLE OF INVENTION: STAPHYLOCOCCUS EPIDERMIDIS NUCLEIC ACIDS
FILE REFERENCE: PU3480US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR FILING DATE: 1999-11-09
NUMBER OF SEQ ID NOS: 4472
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LOCATION: (5024)
OTHER INFORMATION: variable amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OTHER INFORMATION: Description of Artificial Sequence: synthetic OTHER INFORMATION: amino acid sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: PRT ORGANISM: Artificial Sequence
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4481
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                                                                                                                                                             4389 IKIINQIVDNAIELNDAMQGLKEHVAQLTATTKDNIE-YLNADEDLKIQYDY----AINL
                                                                                                                                                                                                                                                                                                                                                                       119 KITSMLSDVMK-----------QNYALGLQIEYLSKQLKEISDKLDVINV
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3 KNNKLSVKALPSFIDYFNGIYGFATGIKDIMNMIFKTNTGGDLTLDEILKNQQLLNEISG
LKDAQTKAHNDIKDTLKRQLDEIEHANATSNSKAQAKQMVNEEARKAFSNINHATSNDLV
                                                                                                                      ASELIAKENLKTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLL-GLADIDYTPIMNEH 309
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                                    LNKEKEEFRVNILPTLSNTFSNPNYEKARGSDK-DAKIIM--EAKPGYALVGFEISKDSI
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20.4%; Pred. No. 2.2;
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RESULT 15
US-11-045-004-34
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APPLICANT:
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APPLICANT:
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              TITLE OF INVENTION: LISTERIA MONOCYTOGENES FILE REFERENCE: 05394.0018-02
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CURRENT APPLICATION NUMBER: US/11/045,004
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                                                                                                                                    CHARBIT, ALAIN
DURANT, LIONEL
PEREZ-DIAZ, JOSE-CLAUDIO
BAQUERO, FERNANDO
GARCIA DEL PORTILLO, FRANC
GOMEZ-LOPEZ, NURLA
MADUENIO, ENCARNA
PABLOS, BETRIZ DE
WEHLAND, JURGEN
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GARRIDO-GARCIA, PATRICIA
TIERREZ-MARTINEZ, ALBERTO
                                                                                    ENTIAN, KARL-DIETER HAUF, JORG
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KREFT, JURGEN
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GLASER, PHILIPPE
KUNST, FRANCK
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DUSSURGET, OLIVIER
CHETOUANI, FARID
                                                 ROSE, MATTHIAS
VOSS, HAMUT
                                                                                                                      KARST,
                                                                                                                                                                                                                                                                                                                                      DOMANN,
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                                                                                                                                                                                                                                                                                                   BERCHE, PATRICK
                                                                                                                                                                                                                                                                                                                       HAIN, THORSTEN
                                                                                                                                                                                                                                                                                                                                                       CHAKRABORTY,
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; ORGANISM: Listeria monocytogenes
US-11-045-004-34
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PRIOR APPLICATION NUMBER: 10/637,657
PRIOR FILING DATE: 2003-08-11
PRIOR APPLICATION NUMBER: 10/257,023
PRIOR PILING DATE: 2002-10-08
PRIOR APPLICATION NUMBER: PCT/FR01/01118
PRIOR PILING DATE: 2001-04-11
PRIOR FILING DATE: 2001-04-11
PRIOR APPLICATION NUMBER: PR 00/04,629
PRIOR APPLICATION NUMBER: PR 00/04,629
PRIOR FILING DATE: 2000-04-11
PRIOR FILING DATE: 2000-04-11
PRIOR PILING DATE: 2000-04-11
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                                               TSQNGEEAFGGNFIISEIRPSEELLSPELIKSDAWVG-----SQGTWISGNSL 696
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                                                                                                                    TEYVIQYIVKGKAAIYLKDEKNGDYIYEETNNELE-DFQAVTKRF--ITGTDSSRVHLIF 648
                                                                                                                                                                                                                                                 -GLVVDENSRLVTLTCKSYLRETLLATDLSN----KETKLIVPPNGF-ISN-----IVENG
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v:smatches 294;
              -KPDVDTGEVILVKQDSATGETLEGAVFDLMTADGAIVAS---
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Search completed: May 15, 2006, 20:48:27 Job time : 34 secs	Qy 748 SSKYISEKFTTTNNTGL 765	Qy 697 NINSNVNGTFR-QNLSLESYSTYSMNFNVNGFGKVTIRNSREVVFERSYLQF 747
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AAW46869
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AAY24967

AAD043705

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Aaw46725	Aaw19514	Aar91243	Adn08753	Aay24963	Aaw46860	Adg88492	Aay59275	Aay24975	Aaw46871	Aaw46872	Aaw60215	Adn08756	Abb82566	Aay24969	Aay24964	Aay24965	Aay24972	Aay24974	Aay24970	Aay24966
Vegetativ	B. cereus	B. thurin	B. thurin	Bacillus	Bacillus	Bacillus	Toxin fro	Bacillus	Bacillus	Bacillus	Bacillus	B. thurin	B. thurin	Bacillus	Bacillus	Bacillus	Bacillus	Bacillus	Bacillus	Bacillus

## ALIGNMENTS

RESULT 1 ADD43701

ADD43701 standard; protein; 787

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WPI; 2003-876903/81. N-PSDB; ADD43700. 22-MAR-2002; 2002US-0366276P. 06-NOV-2002; 2002US-0423999P. Bacillus thuringiensis insecticidal protein ISP3-1099E Arnaut G, 20-MAR-2003; 2003WO-EP003068 Bacillus thuringiensis. 15-JAN-2004 02-OCT-2003. WO2003080656-A1. Insecticidal; plant insect pest; pesticide ADD43701; (FARB ) BAYER BIOSCIENCE NV Boets A, (first entry) De Rudder ζ, Vanneste Ś Van Rie J,

New insecticidal proteins, useful for controlling plant insect pests, for increasing resistance to insect damage compared to control plants. and

Claim 3; SEQ ID NO 2; 81pp; English.

The present invention relates to Bacillus thuringiensis insecticidal proteins (ADD43701, ADD43703) and ADD43705, and their coding sequences (ADD43700, ADD43702 and ADD43704). The insecticidal proteins are insecticidal against Helicoverpa zea, Heliothis virescens, Ostrinia nubilalis, Spodoptera frugiperda, Agrotis ipsilon, Pectinophora gossypiella, Scirphophaga incertulans, Cnaphalocrocis medinalis, Sesamia inferens, Chilo partellus and Anticarsia gemmatalis. The proteins are useful for controlling plant insect pests, and for increasing resistance to insect damage compared to control plants.

Sequence 787

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RESULT 3
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Best Local :
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   11-MAR-2004
                           ADG88542;
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Feitelson JS, Schnepf HE, Narva KE, Loewer D, Dullum CJ, Muller-Cohn J, Finstad-Lee S;
                                                ADG88542
                                                                                                                                                                                                              Sequence 787 AA;
                                                                                                                                                                                                                                                                                                                                                                         New polynucleotides encoding pesticidally active transforming plants for controlling pests.
                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 2000-096811/08.
N-PSDB; AAZ58823.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Bacillus thuringiensis; toxin; lepidopterans; cleopterans.
                                                                                                                                                                                                                                                                                                                                                   Claim 2; Page 100-103; 104pp;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SUP toxin from B. thuringiensis strain KB59A4-6.
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                                               standard; protein; 787
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                                                                                                                                                                                    Length 787;
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                                                                                                                                                                                                                                                                                                                                                                                       proteins,
                                                                                                                                                                                                                                                                                                                                                                                                                                                               BA, Schmeits Morrill G;
                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                     The polynucleotides
                                                                                                              184
                                                                                                                                                                                                                                                                                                                                                                                     useful
                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ij
                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                        for
                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0
                                                                                                                                                                                                                       RESULT 4
AAW46865
ID AAW4
밁
                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
Matches 45; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                      The present invention provides an isolated polynucleotide from Bacillus thuringiensis (B.t.) strain KB59A4-6 that encodes an active pesticidal SUP toxin protein. The invention is useful in plant genetic engineering particularly producing plants that express such gene in order to effectively control various insects e.g. boll weevil, black cutworm etc. The invention is also useful for conferring resistence in plants against pepidopterans or coloopterans. The present sequence is Bacillus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New polynucleotide from Bacillus subtilis, which encodes delta endotoxins or pesticide proteins, useful in plant genetic engineering, particularly for producing plants that are resistant to lepidopteran or coleopteran
           01-JUL-1997;
                                                                                                           Toxin; lepidopteran pest; control; Aç
Heliothis virescens; Helicoverpa zea.
                                                                                                                                               Bacillus thuringiensis toxin designated 94R1(a).
                                                                                                                                                                                                                                                                                                                                                                                    Sequence 787
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI;
                                  08-JAN-1998.
                                                                                  Bacillus thuringiensis
                                                                                                                                                                       11-JUN-1998
                                                                                                                                                                                                AAW46865;
                                                                                                                                                                                                                      AAW46865 standard; protein; 511 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 1; SEQ ID NO 54; 51pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 pests.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Finstad-Lee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Feitelson JS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          07-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  07-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           05-AUG-2003.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bacillus thuringiensis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    plant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pesticide;
                                                                                                                                                                                                                                                                                                                                                                                                             thuringiensis protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US6603063-B1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bacillus thuringiensis strain KB59A4-6 SUP toxin protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              oewer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (MYCO ) MYCOGEN CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2004-008371/01.
DB; ADG88541.
                                                                                                                                                                                                                                                                                     140
                                                                                                                                                                                                                                                                                                    139 EYLSKQLKEISDKLDVINVNVLINSTLTEITPAYQRIKYVNEKFE 183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  protectant;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ָט,
                                                                                                                                                                                                                                                                                     EYLSKOLKEISDKLDVINVNVLINSTLTEITPAYORIKYVNEKFE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              genetic engineering;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Dullum
                                                                                                                                                                                                                                                                                                                                   5.7%; Solilarity 100.0%; If Conservative 0;
                                                                                                                                                                                                                                                                                                                                                                                     AA;
                                                                                                                                                                       (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Schnepf
lum CJ,
           97WO-US011658.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99US-00307106
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gene;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HE, Narva KE,
Muller-Cohn J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ds.
                                                                                                                      control; Agrotis ipsilon; black cutworm;
                                                                                                                                                                                                                                                                                                                                   %; Score 45; DB
%; Pred. No. 4.6
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              resistance;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Stockhoff
Stamp L,
                                                                                                                                                                                                                                                                                                                                               DB 8; Le
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              toxin;
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Length 787;

Indels

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Gaps

0

184

BA, Schmeits Morrill G;

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RESULT 5
AAY24968
ID AAY2
XX
    SXCCCCCCX PX PPTX DRX PXX PR
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Best Local
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A method has been developed for the control of European corn borer (Ostrinia nubilalis), comprising contacting the pest with a pestic: amount of a Bacillus thuringiensis toxin. The method is used for the control of European corn borer (Ostrinia nubilalis). The method can
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The present sequence represents a Bacillus thuringiensis toxin which is active against lepidopteran pests. The toxin isolates can be used for the control of lepidopteran pests such as Agrotts ipsilon (black cutworm), Heliothis virescens and Helicoverpa zea. PCR primers and probes can be derived from the polynucleotide encoding the toxin and used for the amplification and detection of other toxin-encoding sequences
                                                       Claim 1;
                                                                                      Method
                                                                                                           N-PSDB;
                                                                                                                                           Muller-Cohn
                                                                                                                                                   Schnepf HE,
                                                                                                                                                                                             31-DEC-1997;
                                                                                                                                                                                                                 15-DEC-1998;
                                                                                                                                                                                                                                       08-JUL-1999
                                                                                                                                                                                                                                                            WO9933991-A2
                                                                                                                                                                                                                                                                               Bacillus thuringiensis
                                                                                                                                                                                                                                                                                                     European
                                                                                                                                                                                                                                                                                                                 Bacillus
                                                                                                                                                                                                                                                                                                                                     Bacillus
                                                                                                                                                                                                                                                                                                                                                          09-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                               AAY24968
                                                                                                                                                                                                                                                                                                                                                                                                   AAY24968
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 42; Page 131-133; 183pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Black cutworm.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      New isolated Bacillus
encoding toxins which
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 1998-086971/08
                                                                                                                                                                         (MYCO ) MYCOGEN CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Schnepf HE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-JUL-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (MYCO)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ocal
                                                                                                                    1999-405513/34.
                                                                                                                                                                                                                                                                                                                                                                                                                                                       122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             261
                                                                                      for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 Similarity
43; Conser
                                                                                                          AAX83885
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MYCOGEN
                                                                                                                                                                                                                                                                                                    thuringiensis; tox corn borer; black
                                                                                                                                                                                                                                                                                                                                    thuringiensis toxin 94R1(a)
                                                                                                                                                                                                                                                                                                                                                                                                  standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                KTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLADIDYT 303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           511 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      KTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLADIDYT 164
                                                                                     control of
                                                                                                                                          ٦
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Wicker C,
                                                                                                                                                  Wicker C,
                                                                                                                                                                                                                                                                                                                                                         (first entry)
                                                     135-137; 174pp;
                                                                                                                                                                                             97US-00002285
                                                                                                                                                                                                                 98WO-US026585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 96US-00674002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CORP
                                                                                                                                                                                                                                                                                                                                                                                                  protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      thuringiensis isolate(s) are active against lepid
                                                                                    European
                                                                                                                                                                                                                                                                                                               toxin; Ostrinia nubilalis;
                                                                                                                                                    Narva
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Narva
                                                                                                                                                                                                                                                                                                      cutworm
                                                                                                                                                                                                                                                                                                                                                                                                   511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 43; DB
Pred. No. 4.2
0; Mismatches
                                                     English.
                                                                                                                                                   Ä
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                                                                                     corn
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                                                                                                                                                  Walz M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Walz
                                                                                     borer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 2; Le
4.2e-36;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Z,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ıte(s) - used
lepidopteran
                                                                                   using
                                                                                                                                                    Stockhoff
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Stockhoff
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length
                                                                                    Bacillus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                              lepidopteran;
                                                                                                                                                  BA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   511;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    to obtain genes pests such as the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     B
                                                                                   thuringiensis
            a pesticidal sed for the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
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also

Query Match Best Local S Matches 43

ch 5.5%; S. l Similarity 100.0%; 43; Conservative 0;

Score 43; DB; Pred. No. 6.1 0; Mismatches

DB 2; Le 6.1e-36;

Length 759;

Indels

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Gaps

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Sequence

759

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RESULT 6
AAW46864
ID AAW4
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Best Local (
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                                                                                                                                                                                                WPI; 199
N-PSDB;
                              The present sequence represents a Bacillus thuringiensis toxin which is active against lepidopteran pests. The toxin isolates can be used for the control of lepidopteran pests such as Agrotis jusilon (black cutworm), Heliothis virescens and Helicoverpa zea. PCR primers and probes can be derived from the polynucleotide encoding the toxin and used for the amplification and detection of other toxin-encoding sequences. note: nucleotide sequence contains numerous stop codons which do not alter the
                                                                                                                                                  New isolated Bacillus thuringiensis isolate(s) - used to obtain genes encoding toxins which are active against lepidopteran pests such as tl Black cutworm.
                                                                                                                           Claim 42; Page 126-129; 183pp; English
                                                                                                                                                                                                                                   Schnepf
                                                                                                                                                                                                                                                                                   01-JUL-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 be used for the control of other non-mammalian pests, particularly black cutworm, and other lepidopteran pests. The present sequence represents a Bacillus thuringiensis toxin from the present invention
                    reading
                                                                                                                                                                                                                                                                                                         01-JUL-1997;
                                                                                                                                                                                                                                                                                                                                08-JAN-1998.
                                                                                                                                                                                                                                                                                                                                                       WO9800546-A2
                                                                                                                                                                                                                                                                                                                                                                                                      Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                       Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bacillus thuringiensis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Heliothis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Bacillus thuringiensis toxin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          11-JUN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAW46864;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAW46864 standard; protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 511 AA;
                                                                                                                                                                                                                                                          (MYCO)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Toxin;
                                                                                                                                                                                                 1998-086971/08
DB; AAV16523.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                122 KTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLADIDYT 164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              261 KTSGSEVGNVYNFLIVLTALQAKAFLTLTTTCRKLLGLADIDYT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              lepidopteran pest; control
his virescens; Helicoverpa
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              43;
                                                                                                                                                                                                                                                          MYCOGEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
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                                                                                                                                                                                                                                   Wicker C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                 96US-00674002
                                                                                                                                                                                                                                                                                                         97WO-US011658
                                                                                                                                                                                                                                                          CORP.
                                                                                                                                                                                                                                                                                                                                                                                                    /note=
257
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                              note=
                                                                                                                                                                                                                                                                                                                                                                                        label= unknown
                                                                                                                                                                                                                                                                                                                                                                                                                             labe1=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5.5%;
                                                                                                                                                                                                                                                                                                                                                                                                              = unknown
"encoded
                                                                                                                                                                                                                                                                                                                                                                              "encoded
                                                                                                                                                                                                                                    Narva
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          control; Agrotis ipsilon; black cutworm;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       759
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 designated 86W1(a)
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                                                                                                                                                                                                                                                                                                                                                                            λ̈́q
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                                                                                                                                                                                                                                   Walz
                                                                                                                                                                                                                                                                                                                                                                                                              AKT"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4.2e-36;
hes 0;
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                                                                                                                                                                                                                                   Stockhoff
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 511;
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                                                                                                                                                                                                                                   BA;
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RESULT 7
AAY24967
ID AAY2
XX AAY2
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RESULT 8
ADD43705
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AC ADD4
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                                                                                                                                                                                                                                                                                                                                                                                                                            A method has been developed for the control of European corn borer (Ostrinia nubilalis), comprising contacting the pest with a pesticidal amount of a Bacillus thuringiensis toxin. The method is used for the control of European corn borer (Ostrinia nubilalis). The method can also be used for the control of other non-mammalian pests, particularly black cutworm, and other lepidopteran pests. The present sequence represents a Bacillus thuringiensis toxin from the present invention
                        ADD43705;
                                                                   ADD43705 standard;
                                                                                                                                                                                                                                                                                                                                                                                      Sequence 759 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 1; Page 130-133; 174pp; English.
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Muller-Cohn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Method for control of European corn borer using Bacillus thuringiensis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             31-DEC-1997;
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                                                                                                                                                                                                                                                                                                                Local
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DB; AAX83884.
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                                                                                                                                                                                                                                                                                          43;
                                                                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                 KTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLADIDYT 303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               thuringiensis; toxin; Ostrinia corn borer; black cutworm.
                                                                                                                                                                                        KTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLADIDYT 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLADIDYT
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ilarity 100.0%;
Conservative (
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note= "unspecified" 257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               193
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0; Mismatches
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3. 6.1e-36;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Stockhoff BA;
                                                                                                                                                                                                                                                                                                                                  Length 759;
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RESULT 9
ABB82567
X A X F X G X B X S X R X G X F X R R X
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                       The present invention relates to Bacillus thuringiensis insecticidal proteins (ADD43701, ADD43703 and ADD43705) and their coding sequences (ADD43700, ADD43702 and ADD43704). The insecticidal proteins are insecticidal against Helicoverpa zea, Heliothis virescens, Ostrinia nubilalis, Spodoptera frugiperda, Agrotis ipsilon, Pectinophora gossypiella, Scirphophaga incertulans, Cnaphalocrocis medinalis, Sesamia inferens, Chilo partellus and Anticarsia gemmatalis. The proteins are useful for controlling plant insect pests, and for increasing resistance to insect damage compared to control plants.
        30-MAR-2001;
04-DEC-2001;
                                                                                                                                                              B. thuringiensis hybrid Vip3A-B toxin.
                                          01-APR-2002; 2002WO-US010264.
                                                                                                              Bacillus thuringiensis
                                                                                                                                       Vip3; toxin;
                                                                                                                                                                                     04-FEB-2003
                                                                                                                                                                                                            ABB82567;
                                                                                                                                                                                                                                 ABB82567 standard;
                                                                                                                                                                                                                                                                                                                                                                                     Sequence 786 AA;
                                                                  10-OCT-2002
                                                                                          WO200278437-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 2; SEQ ID NO 6; 81pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New insecticidal proteins, useful for controlling plant for increasing resistance to insect damage compared to o
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      22-MAR-2002; 2002US-0366276P
06-NOV-2002; 2002US-0423999P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 2003-876903/81.
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                                                                                                                                                                                                                                                                                            262
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ) BAYER BIOSCIENCE
                                                                                                                                                                                                                                                                                                                                        43;
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                                                                                                                                                                                                                                                                                          KTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLADIDYT 304
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                                                                                                                                                                                                                                                                                                                                       ilarity 100.0%;
Conservative (
                                                                                                                                       insecticide;
        2001US-0280025P.
2001US-0336657P.
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                                                                                                                                                                                  (first entry)
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                                                                                                                                                                                                                               protein;
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                                                                                                                                     transgenic;
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                                                                                                                                                                                                                                  787
                                                                                                                                                                                                                                                                                                                                      Score 43; DB; Pred. No. 6.3
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                                                                                                                                                                                                                                                                                                                                  DB 7; Lc.,
o. 6.3e-36;
0;
                                                                                                                                       delta-endotoxin; Vip3B; Vip3A.
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                                                                                                                                                                                                                                                                                                                                                            Length 786;
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                                                                                                                                                                                                                                                                                                                                       Indels
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                                                                                                                                                                                                                                                                                                                                       Gaps
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RESULT 10
ABB82565
ID ABB82565
AC ABB82
XX AB827
XX Vip3;
XX Vip3;
XX Vip3;
XX Vip3;
XX VO200
XX O1-OC
XX O1-AF
XX O1-AF
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Best Local :
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  exigua (beet armyworm), Helicoverpa punctigera (native budworm), Helicoverpa armigera (cotton bollworm), Manduca sexta (tobacco hornworm) Trichoplusia ni (cabbage looper), Pectinophora gossypiella (pink bollworm), and Cochylis hospes (banded sunflower moth). The polynucleotides encoding the toxins are useful to produce an insectressistant transgenic plant. The toxins are useful in combination with Bt delta-endotoxins to increase pest target range. The present sequence represents a B. thuringiensis Vip3A-B hybrid toxin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 200
N-PSDB;
                    Novel pesticidal toxin, designated Vip3 toxins from Bacillus thuringiensis, useful for controlling insects, e.g., lepidopteran insect, is highly active against a wide range of insect pests.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The invention relates to an isolated Vip3 toxin from B. thuringiensis that is active against insects. The toxins are useful for controlling insects, where the insect is a lepidopteran insect selected from Ostrinia nubilalis (European corn borer), Plutella xylostella (diamondback moth), Spodoptera frugiperda (fall armyworm), Agrotis ipsilon (black cutworm), Helicoverpa zea (corn earworm), Heliothis virescens (tobacco budworm), S.
                                                                                                                                                                                                                                                                                                                                                                                                                01-APR-2002; 2002WO-US010264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bacillus thuringiensis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Vip3; toxin; insecticide; transgenic; delta-endotoxin; Vip3B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       B. thuringiensis native Vip3B polypeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      10-OCT-2002.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WO200278437-A2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ABB82565 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Novel pesticidal toxin, designated Vip3 toxins from Bacillus thuringiensis, useful for controlling insects, e.g., lepidop is highly active against a wide range of insect pests.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Miles
                                                                                                                                                                                                                                                                            (SYGN)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local
                                                                                                                                         2003-040603/03
)B; ABV74977.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   261 KTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLADIDYT 303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2003-040603/03.
DB; ABV74980.
                                                                                                                                                                                                                      ָס,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                43;
                                                                                                                                                                                                                                                                         SYNGENTA PARTICIPATIONS AG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SYNGENTA PARTICIPATIONS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       787 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLADIDYT 304
                                                                                                                                                                                                                   Kramer V,
                                                                                                                                                                                                                                                                                                                                2001US-0280025P.
2001US-0336657P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          protein; 787
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5.5%;
                                                                                                                                                                                                                      Shen
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 43;
Pred. No.
                                                                                                                                                                                                                      Shotkoski
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Shotkoski
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          å
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 6; Le
                                                                                                                                                                                                                   Έ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 'n
                                                                                                                                                                                                                   Warren
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Warren
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          <u>..</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 787;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              e.g., lepidopteran insect,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    £
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ß
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                        New Vip3 toxin encoded by a nucleic acid from Bacillus thuringiensis, useful for controlling lepidopteran insects such as tobacco budworm, sunflower head moth or beet armyworm, or for producing an insect-
                                                                                                                                                                                                                                                                                                                                                                                                                                              vip3c; tox sunflower
                                                                                                                                                                                                              WPI; 2003-788166/74.
N-PSDB; ADN08757.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Spodoptera frugiperda (fall armyworm), Agrotis ipsilon (black cutworm), Helicoverpa zea (corn earworm), Helicothis virescens (tobacco budworm), exigua (beet armyworm), Helicoverpa punctigera (native budworm), Helicoverpa armigera (cotton bollworm), Manduca sexta (tobacco hornworm Trichoplusia ni (cabbage looper), Pectinophora gossypiella (pink bollworm), and Cochylis hospes (banded sunflower moth). The polynucleotides encoding the toxins are useful to produce an insectresistant transgenic plant. The toxins are useful in combination with Edelta-endotoxins to increase pest target range. The present sequence represents a B. thuringiensis Vip3B toxin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    B. thuringiensis vip3B protein
                                                                                                                                           resistant transgenic
                                                                                                                                                                                                                                                                                                         06-MAR-2002; 2002US-0362250P.
                                                                                                                                                                                                                                                                                                                                    20-FEB-2003; 2003WO-US004735
                                                                                                                                                                                                                                                                                                                                                                18-SEP-2003.
                                                                                                                                                                                                                                                                                                                                                                                         WO2003075655-A2
                                                                                                                                                                                                                                                                                                                                                                                                                 Bacillus thuringiensis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                17-JUN-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ADN08758 standard; protein; 787
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 787
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     that is active against insects. The toxins are useful for controlling insects, where the insect is a lepidopteran insect selected from Ostrinia nubitalis (European corn borer), Plutella xylostella (diamondback moth),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 4; Page 56-60; 82pp;
                                                                                                                                                                                                                                                                                 (SYGN)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       43;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                261 KTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLADIDYT
                                                                                                                                                                                                                                                                                                                                                                                                                                              toxin; p
                                                                                                                                                                                                                                                                                SYNGENTA PARTICIPATIONS AG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLADIDYT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                           protease inhibitor; lepidopteron; tobacco
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               relates to an isolated Vip3 toxin from B. thuringiensis
                                                                                                                                                                                                                                                                                                                                                                                                                                             moth;
                                                                                                                                                                                                                                                      GW,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5.5%;
                                                                                                                                           plant.
                                                                                                                                                                                                                                                                                                                                                                                                                                              beet
                                                                                                                                                                                                                                                      Shotkoski F,
                                                                                                                                                                                                                                                                                                                                                                                                                                              armyworm;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 43;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQ ID
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                      Kramer V;
                                                                                                                                                                                                                                                                                                                                                                                                                                             insect-resistance; maize; vip3B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NO:7.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       6.3e-36;
hes 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  6,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 787,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             303
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (black cutworm),
                                                                                                                                                                                                                                                                                                                                                                                                                                                           budworm;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       <u>.</u>.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       hornworm)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ostrinia
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armyworm, for producing an insect-resistant transgenic plant, and protecting a maize plant against at least one insect pest. The present sequence represents native B. thuringiensis vip3B.

against insects. The toxin acts as a protease inhibitor. The Vip3 to hybrid toxin and nucleic acid molecules are useful for controlling lepidopteron insects such as tobacco budworm, sunflower head moth or armyworm, for producing an insect-resistant

toxin,

Example 10; SEQ ID NO 7; 118pp; English.

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RESULT 13
ADN08783
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ADD43703
ID ADD43
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                                                                                                        Matches
                                                                                                                         Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local :
                                                                                                                                                        The present invention relates to Bacillus thuringiensis insecticidal proteins (ADD43701, ADD43703 and ADD43705) and their coding sequences (ADD43700, ADD43702 and ADD43704). The insecticidal proteins are insecticidal against Helicoverpa zea, Heliothis virescens, Ostrinia nubilalis, Spodoptera frugiperda, Agrotis ipsilon, Pectinophora gossypiella, Scirphophaga incertulans, Cnaphalocrocis medinalis, Sesamia inferens, Chilo partellus and Anticarsia gemmatalis. The proteins are useful for controlling plant insect pests, and for increasing resistance to insect damage compared to control plants.
                           ADN08783 standard;
                                                                                                                                           Sequence 788 AA;
                                                                                                                                                                                                                                                 Claim 1; SEQ ID NO 4; 81pp; English.
                                                                                                                                                                                                                                                                                             N-PSDB; ADD43702
                                                                                                                                                                                                                                                                                                      WPI; 2003-876903/81.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                 New insecticidal proteins, useful for controlling plant insect pests, for increasing resistance to insect damage compared to control plants.
                                                                                                                                                                                                                                                                                                                                                        22-MAR-2002; 2002US-0366276P.
06-NOV-2002; 2002US-0423999P.
                                                                                                                                                                                                                                                                                                                                                                                                                                    Bacillus thuringiensis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bacillus thuringiensis insecticidal protein ISP3-327D.
                                                                                                                                                                                                                                                                                                                                                                                  20-MAR-2003; 2003WO-EP003068
                                                                                                                                                                                                                                                                                                                                                                                                    02-OCT-2003
                                                                                                                                                                                                                                                                                                                                                                                                                     WO2003080656-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Insecticidal; plant insect pest; pesticide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         15-JAN-2004 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADD43703 standard;
                                                                                                                                                                                                                                                                                                                                        (FARB ) BAYER BIOSCIENCE NV
                                                                                                                  Local
                                                                      262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              261 KTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLADIDYT 303
                                                                                                         43;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         43;
                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                              KTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLADIDYT 303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            787
                                                                     KTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLADIDYT 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLADIDYT 304
                                                                                                                                                                                                                                                                                                                      Boets A,
                                                                                                        5.5%; ilarity 100.0%; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
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                           protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           protein;
                                                                                                                                                                                                                                                                                                                       De Rudder
                           788
                                                                                                        Score 43; DB;; Pred. No. 6.3; 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                        0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            788
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 43; DB 7; L
Pred. No. 6.3e-36;
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                           ⋧
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                      Vanneste S,
                                                                                                    DB 7; L., 6.3e-36; 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0; Indels
                                                                                                                       Length 788;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 787;
                                                                                                                                                                                                                                                                                                                      Van
                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                      Rie J;
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                                                                                                       Gaps
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RESULT 14
ADN08762
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Best Local Similarity
                                                                                                                                                                                                             vip3c; toxin; protease inhibitor; le
sunflower head moth; beet armyworm;
                                                                                                                                                                                                                                                                                  B. thuringiensis vip3A-C fusion protein SEQ ID NO:11.
20-FEB-2003; 2003WO-US004735
                                                                                                                                                                Bacillus thuringiensis
                                                                                                                                                                                                                                                                                                                                      17-JUN-2004
                                                                                                                                                                                                                                                                                                                                                                                      ADN08762;
                                                                                                                                                                                                                                                                                                                                                                                                                                ADN08762 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The invention relates to a novel isolated Vip3 toxin that is active against insects. The toxin acts as a protease inhibitor. The Vip3 to hybrid toxin and nucleic acid molecules are useful for controlling lepidopteron insects such as tobacco budworm, sunflower head moth or armyworm, for producing an insect-resistant transgenic plant, and protecting a maize plant against at least one insect pest. The press sequence represents vip3C protein vip3C-12168.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New Vip3 toxin encoded by a nucleic acid from Bacillus thuringiensis, useful for controlling lepidopteran insects such as tobacco budworm, sunflower head moth or beet armyworm, or for producing an insect-
                                                 18-SEP-2003.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 788 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 12; SEQ ID NO 32; 118pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        vip3c; toxin; protease inhibitor; lepidopteron; tobacco budworm;
sunflower head moth; beet armyworm; insect-resistance; maize.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        N-PSDB; ADNO8782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 2003-788166/74.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Shen Z,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      06-MAR-2002; 2002US-0362250P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       18-SEP-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bacillus thuringiensis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  B. thuringiensis vip3C-12168 protein SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 17-JUN-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              resistant transgenic plant.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20-FEB-2003; 2003WO-US004735
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    262 KTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLADIDYT 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     43;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SYNGENTA PARTICIPATIONS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLADIDYT 303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Warren GW,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                        protease inhibitor; lepidopteron; tobacco budworm;
                                                                                                                                                                                                                                                                                                                                                                                                                                protein; 788
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Shotkoski F,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                k; Score 43; DB
k; Pred. No. 6.3
0; Mismatches
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                                                                                                                                                                                                                insect-resistance; maize; vip3A-C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 7; L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NO:32
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06-MAR-2002; 2002US-0362250P

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RESULT 15
AAW60216
ID AAW60
XX AAW60
XX AAW60
XX AAW60
XX IT-OC
DT 17-OC
DT 28-SB
XX INSec
XX INSec
XX INSec
XX INSec
XX INSec
XX O7-MJ
XX WO981
XX W0981
XX W1-PS1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New Vip3 toxin encoded by a nucleic acid from Bacillus thuringiensis, useful for controlling lepidopteran insects such as tobacco budworm, sunflower head moth or beet armyworm, or for producing an insectresistant transgenic plant.
                                                                                          Example 4; Page 51-53; 139pp; English
                                                                                                                                                                                    Bacillus thuringiensis isolates - used for producing pesticidal toxins and nucleotide sequences for control of lepidopterans and coleopterans.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Feitelson JS, Schne
Loewer D, Schwab G,
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28-SEP-1998
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                                                                                                                                                                                                                                                                                                                                                        N-PSDB; AAV30289.
                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 1998-272226/24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      30-OCT-1996;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Bacillus thuringiensis; strain PS81F (NRRL B-18424)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Insecticide; pesticide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bacillus thuringiensis insecticidal 81F toxin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2003-788166/74.
N-PSDB; ADN08761.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                262
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(first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Schnepf HE,
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m CJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   biological control; lepidopteran;
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G
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Muller-Cohn J, Stamp
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b. 6.3e-36;
ches 0;
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This polypeptide comprises the novel 81F toxin of isolate PS81F of

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                                                                   Matches
                                                                                                   Query Match
                                                                                                                                                                 Bacillus thuringiensis (B.t.). Its amino acid sequence was deduced from DNA (see AAV30289) isolated by PCR amplification, following identification of PS81F as a producer of lepidopteran- active toxin. Disclosed and claimed are novel B.t. isolates, pesticidal toxins (see AAW60215-32), genes and nucleotide probes and primers (see AAV30288-321 and AAT99734-87) for the identification of genes encoding toxins active against pests, and transformed host cells. The invention provides entirely new families of toxins from Bacillus isolates. (Updated on 17-OCT-2003 to standardise OS field)
                                                                                                                                    Sequence 789 AA;
                                                                                     oca1
                                                                 43;
 262
               261 KTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLADIDYT 303
                                                                                     Similarity
KTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLADIDYT
                                                                   Conservative
                                                            5.5%; occ
100.0%; Pr
                                                                                 Score 43;
Pred. No.
                                                                   Mismatches
                                                                                     No.
                                                                 6.3e-36;
hes 0;
                                                                                                   DB 2;
                                                                                                   Length 789;
                                                                 Indels
304
                                                                 0;
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Search completed: May 15, 2006, 20:51:37 Job time : 189 secs

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Result
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Perfect score:
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    Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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Copyright (c) 1993 - 2006 Biocceleration Ltd.
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AE0772	A84997	D87715	JC7308	D97536	E96533	H69901	C82357	AE2755	AH2372	H84958	G84451	F89899	F72430	B69776	G90332
probable exported	N-acetylmuramoyl-L	carboxymethylenebu	cellulase (EC 3.2.	hypothetical prote	hypothetical prote	general stress pro	transcription regu	conserved hypothet	hypothetical prote	phosphoheptose iso	probable cold-regu	ribosome recycling	NADP-reducing hydr	cal	hypothetical prote

# ALIGNMENTS

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RESULT 4
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Title: Sequencing and functional analysis of a 32 560 bp A;Reference number: S39824; MUID:94205266; PMID:8154187 A;Accession: S39841
             hypothetical
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A; Residues: 579-1381 <SCH>
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C;Date: 10-Sep-1999 #sequence revision 10-Sep-1999 #text change 09-Jul-2004
C;Accession: S45781; SS0284; S45782; S39841; S37339; S42498
R;Goffeau, A.; Jonniaux, J.L.; Purnelle, B.; Skala, J.; de Wergifosse, P.; van Dyck, submitted to the Protein Sequence Database, August 1994
                                                                                                                                                                                                                                                                                                                                                                              A; Map position:
                                                                                                                                                                                                                                                                                                                                                                                                                       A; Gene: SGD:EDE1; MIPS:YBL047c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         R;Dubois, E.; El Bakkoury, M.; Glansdorff, N.; Messenguy, submitted to the Protein Sequence Database, August 1994 A;Reference number: S45782
                                                                                                                                                                                                                                                                                           F;560-576/Domain: transmembrane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Molecule type: DNA
A;Residues: 1-961 <DEF>
A;Cross-references: UNIPARC:UDI0000174C49;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NA-binding protein.
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A;Title: The sequence of a 22.4 kb DNA fragment from the left arm of yeast chromosome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                R;de Wergifosse, P.; Jacques, B.; Jonniaux, J.L.; Purnelle, Yeast 10, 1489-1496, 1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Reference number: S45745
A;Accession: S45781
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Best Local S
Matches
                                                                                                                                                                                                                                                                                                             ;Superfamily: yeast probable calcium-binding protein YBL047C; calmodulin repeat homolog;Keywords: calcium binding; EF hand; transmembrane protein
;167-199/Domain: calmodulin repeat homology <EF1>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ;Scherens, B.; el Bakkov
east_9, 1355-1371, 1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Experimental source: strain S288C; Scherende, B.; Dubois, E.; Messenguy,
                                                                                                                                                                                                                                                                                                                                                                                                                                                             ;Cross-references: UNIPARC:UPI0000168C7F; EMBL:Z23261; NID:g313733; PIDN:CAA80797.1; PI;Experimental source: strain S288C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Residues: 579-1381 <DUB>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Cross-references: UNIPARC:UPI000168C7F; EMBL:Z35808; GSPDB:GN00002; MIPS:YBL047c
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9; Conserv
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0; Mismatches
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      Lactococcus lactis subsp.
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A;Molecule type: DNA, A;Residues: 1-152 <KUR, A;Residues: 1-152 <KUR, A;Cross-references: UNIPROT:Q97KTO; UNIPARC:UPI00000C9FDO; A;Experimental source: Clostridium acetobutylicum ATCC824
                                                                                                       R;Nolling, J.; Breton, G.; Omelchenko, M.V.; Markarova, K.; Daly, M.J.; Bennett, G.N.; Koonin, E.V.; Smith, D.R. J. Bacteriol. 183, 4823-4838. Zmolling and Comparative Analysis of the A;Reference number: A96900; MUID:21359325; PMID:21359325, A;Accession: A97003
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probable beta-D-galactosidase [imported] - Clostridium acetobutylicum c;Species: Clostridium acetobutylicum C;Date: 14-Sep-2001 #sequence_revision 14-Sep-2001 #text_change 09-Ju. C;Accession: A97003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             rson, J.; Khalak, H.; Richardson, D.; Howell, J. they, L.; Weidman, J.; Smith, H.O.; Venter, J.C. Science 281, 375-388, 1998
                                                                                             RESULT 6
                                                                                                                                                                                                                                                                                          A;Gene: TP0396
C;Superfamily:
                                                                                                                                                                                                                                                                                                                                                                                                     A;Status: preliminary; nucleic acid sequence A;Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Title: Complete genome sequence of Treponema pallidum, A;Reference number: A71250; MUID:98332770; PMID:9665876
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             probable flagellar basal-body rod protein (flgB) - syphilis spirochete C;Species: Treponema pallidum subsp. pallidum (syphilis spirochete) C;Datc: 24-Jul-1998 #sequence_revision 24-Jul-1998 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C;Species: Lactococcus lactis subsp. lactis
C;Date: 23-Mar-2001 #sequence_revision 23-Mar-2001 #text_change 09-Jul-2004
C;Accession: A86789
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Title: The complete genome sequence of the lactic acid bacterium Lactococcus lactis A; Reference number: A86625; MUID:21235186; PMID:11337471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          R;Bolotin, A.; Wincker, P.; Mauger, S.; Jaillon, Genome Res. 11, 731-753, 2001
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8; Conserv
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8; Conserv
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                      09-Jul-2004
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M.; Utterback,
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K.s.;

Zeng, Q.; Gibson,

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Lee

Solvent-Producing Bacterium

610

GB:AE001437;

PIDN: AAK78812.

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A;Molecule type: DNA
A;Residues: 1-308 <AND>
A;Cross-references: UNIPROT: P34438;
C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 8
S44818
                                                                                                                                                                                                                                                                     submitted to the EMBL Data A; Description: Sequence of A; Reference number: S44816 A; Accession: S44818
                                                                                                                                                                                                                                                                                                                                                  F44E2.8 protein - Caenorhabditis elegans
C;Speckes: Caenorhabditis elegans
C;Date: 20-Feb-1995 #sequence_revision 20-Feb-1995
C;Accession: S44818
      RESULT 9
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                                                                                                                                                                         A; Introns:
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A; Residues: 1-250 < CAS>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            R;Castresana, J.; Luebben, M.; Saraste, M.
J. Mol. 250, 202-210, 1995
A;Title: New archaebacterial genes coding for redox proteins:
A;Reference number: S56155; MUID:95333177; PMID:7608970
A;Accession: S56156
A;Accession: S56156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Rieske iron-sulfur protein \mathtt{sox}\mathtt{F} - Sulfolobus aci \mathtt{N}; Alternate names: Rieske iron-sulfur protein II
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              C;Genetics:
A;Gene: CAC0836
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A;Accession: S56173
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                                                                                                               Query Match
Best Local S
Matches 8
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Keywords: 2Fe-2S; metalloprotein; Rieske iron-sulfur protein;
Keywords: 2Fe-2S; metalloprotein; Rieske iron-sulfur protein;
130-190/Domain: Rieske [2Fe-2S] homology #status atypical <R;
140,142,170,173/Binding site: 2Fe-2S cluster (Cys, His, Cys,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local :
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8; Conserv
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100.0%; Pred. No.
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A; Cross-references:
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A;Title: A group-I intron in the mitochondrial small subunit A;Reference number: S51492; MUID:95308539; PMID:7788720 A;Accession: S51492
A; Molecule type: DNA
A; Residues: 1-420 <C
                                                                                                                                                           C; Date: 19-Mar-1997 #sequence_revision 09-May-1997
                                                                                                                                                                                   48.7K intron protein - fungus (Sclerotinia sclerotiorum) C;Species: mitochondrion Sclerotinia sclerotiorum
                                                                                                  R;Carbone, I.; Anderson, J.B.; Kohn, L.M.
Curr. Genet. 27, 166-176, 1995
                                                                                                                                                C; Accession: S51492
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Title: The complete genome sequence of the lactic acid bacterium Lactococcus lactis A;Reference number: A86625; MUID:21235186; PMID:11337471 A;Accession: E86871
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               R;Bolotin, A.; Wincker, P.; Mauger, Genome Res. 11, 731-753, 2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C;Date: 23-Mar-2001 #sequence_revision 23-Mar-2001 #text_change 09-Jul-2004
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C;Superfamily: mannose-1-phosphate guanylyltransferase
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R;Cole, S.T.; Brosch, R.; Parkhill, J.; Garnier, T.; Churcher, C.; Harris, D.; Connor, R.; Davies, R.; Devlin, K.; Feltwell, T.; Gentles, S.; Hamlin, N.; H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        probable rmlA2 protein - Mycobacterium tuberculosis (strain H37RV)
C;Species: Mycobacterium tuberculosis
C;Date: 17-Jul-1998 #sequence_revision 17-Jul-1998 #text_change 09-Jul-2004
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A:Experimental source: strain IL1403
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A;Residues: 1-418 <S
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A; Residues: 1-359 < COL>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Status: preliminary; nucleic acid sequence not shown; translation not
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Best Local Similarity
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100.0%; Pred. No.
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18;
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UNIPROT: Q35928; UNIPARC: UPI0000097183;

EMBL:U07553; NID:g466463;

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A;Cross-references: UNIP
A;Experimental source: s
C;Genetics:
A;Gene: waaE; Cj1150c
C;Superfamily: hypotheti
                                                                                                                 hypothetical protein YER119c -
C;Species: Saccharomyces cerevi
C;Date: 28-May-1993 #sequence r
C;Accession: S50622; S57257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Status: nucleic acid sequence not shown A;Molecule type: DNA A;Residues: 270-448 <BER>A;Cross-references: UNIPARC:UPI00001689F3 C;Genetics:
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A; Genome: mitochondrion
A; Genetic code: SGC3
C; Keywords: mitochondrion
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A;Map position: 5R
C;Superfamily: Saccharomyces cer
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A;Title: Sequence, map position and genome
A;Reference number: S57256; MUID:95397593;
A;Accession: S57257
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A; Residues: 1-448 < DIE>
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                                         ; Residues: 1-461 < PAR>
; Residues: 1-461 < PAR>
; Cross-references: UNIPROT: Q9PNE5;
; Cross-references: serotype 02;
                                                                                       Molecule type: DNA
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                                                                                                     Status: preliminary
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Pred. No.
                                              UNIPARC: UPI00000C1E38; strain NCTC 11168
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PMID:7668045
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 Search completed: May 15, Job time : 46 secs
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coenzyme F420-reducing hydrogenase, beta subunit homolog - Methanobacterium thermoautotr C;Species: Methanobacterium thermoautotrophicum C;Date: 05-Dec-1997 #sequence_revision 05-Dec-1997 #text_change 05-Oct-2004 C;Date: 05-Dec-1997 #sequence_revision 05-Dec-1997 #text_change 05-Oct-2004 C;Accession: E69135 R;Smith, D.R.; Doucette-Stamm, L.A.; Deloughery, C.; Lee, H.; Dubois, J.; Aldredge, T.; Qiu, D.; Spadafora, R.; Vicaire, R.; Wang, Y.; Wierzbowski, J.; Gibson, R.; Jiwani, N. ki, S.; Church, G.M.; Daniels, C.J.; Mao, J.; Rice, P.; Noelling, J.; Reeve, J.N. J. Bacteriol. 179, 7135-7155, 1997 A;Title: Complete genome sequence of Methanobacterium thermoautotrophicum Delta H: funct A;Reference number: A69000; MUID:98037514; PMID:9371463
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Jung, K.H.; Alam, M.; Freitas, T.
Proc. Natl. Acad. Sci. U.S.A. 97, 12176-12181, 2000
Proc. Natl. Acad. Sci. U.S.A. 97, 12176-12181, 2000
A;Authors: Hou, S.; Daniels, C.J.; Dennis, P.P.; Omer, A.
A;Title: Genome sequence of Halobacterium species NRC-1.
A;Title: Genome sequence of Halobacterium species NRC-1.
                                                                                                                                                                                                                                               A;Status; preliminary; nucleic acid sequence not shown; translation not shown A;Molecule type: DNA A;Molecule type: DNA A;Residues: 1-689 < MTH > A;Cross-references: UNIPROT:026380; UNIPARC:UPI0000066710; GB:AE000813; GB:AE
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F;78-132/Domain: ferredoxin 2[4Fe-4S] homology <FER>
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A; Residues: 1-495 <STO>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          C;Date: 02-Feb-2001 #sequence_revision 02-Feb-2001 #text_change 09-Jul-2004 C;Accession: H84359
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    Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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Submitted (JUL-2001) to the EMBL/GenBank/DDBJ databases.

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RESULT 4
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AC Q5JZY9;
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                                                               Isp3b protein.
Bacillus thuringiensis.
Bacteria; Firmicutes; Ba
Bacillus cereus group.
NCBI_TaxID=1428;
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          NUCLEOTIDE Van Rie J.,
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Q5JZY9;
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Insecticidal protein Vip3A
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Q93D74;
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Bacteria; Firmicutes; Bacillales;
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                                                                                                        Bacillus;
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RESULT 6
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1D 079270_BACTU PRELIMINARY;
AC 069270;
DT 01-AUG-1998 (TrEMBLrel. 07,
DT 01-AUG-1998 (TrEMBLrel. 26,
DT 01-MAR-2004 (TrEMBLrel. 26,
DE Vegetative insecticidal pro
GN Name=vip-s;
OS Bactillus thuringiensis.
OC Bacteria; Firmicutes; Bacil
OC Bacillus cereus group.
OX NCBI_TaxID=1428;
RN (1)
RP NUCLEOTIDE SEQUENCE.
RC STRAIN=A13; TISSUB=Leaf;
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Submitted (JAN-2005) to the EMBL/GenBank/DDBJ databases.
EMBL; AJ872070; CA143275.1; -; Genomic_DNA.
GO; GO:0016798; F:hydrolase activity, acting on glycosyl bonds;
GO; GO:0016491; F:oxidoreductase activity; IEA.
GO; GO:0005975; P:carbohydrate metabolism; IEA.
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Bacteria; Firmicutes; B
Bacillus cereus group.
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GO; GO:0016798; F:hydrolase activity, acting on glycosyl
GO; GO:0016491; F:oxidoreductase activity; IEA.
GO; GO:0005975; P:carbohydrate metabolism; IEA.
InterPro; IPR003305; CBM_CenC.
Pfam; PF02018; CBM_4_9; I.
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Oxidoreductase.
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Q5JZZO;
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SEQUENCE 786
                                                                                                                                                                                                                                                                                                                                    SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Van Rie J., Arnaut G., Boets A., Damme "Genes encoding insecticidal secreted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUCLEOTIDE SEQUENCE.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=1428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "Genes encoding insecticidal secreted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
BACTU
                                                                                                                                                                                                                                                           261
                                                                                                                                                                                                                                 262 KTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLADIDYT 304
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43; Conserv
                                                                                                                                                                                                                                                                                              Similarity
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ilarity 100.0%;
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                                                                     Bacillales;
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26,
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Best Local S
Matches 43
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Best Local S
Matches 43
                                                                                                                                                 Q798G2_BACTU PRELIMINARY;
Q798G2;
05-JUL-2004 (TrEMBLrel. 27,
05-JUL-2004 (TrEMBLrel. 27,
05-JUL-2004 (TrEMBLrel. 27,
Vegetative insecticidal pro
                                                 Name=vip83;
Bacillus thuringiensis serovar leesis
Bacteria, Firmicutes; Bacillales; Bac
Bacillus cereus group.
NCBI_TaxID=169759;
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Li J., Yan J., Yuan Z.;
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Bacillus cereus group.
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Bacillus thuringiensis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pfam; PF02018; CBM_4_9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL;
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Oxidoreductase.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL:
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Appl. Environ. Microbiol. 67:5855-5858 (2001).
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                                                                                                                                                                                                                                                                                                                                                    BACTU
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L; AY743436; AAU89707.1; -; Genomic_DNA.
GO:0016798; F:hydrolase activity, acting on
GO:0016491; F:oxidoreductase activity; IEA.
GO:0005975; P:carbohydrate metabolism; IEA.
GO:0005975; CBM_CenC.
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GO:0016491; F:oxidoreductase actīvity; IEA.
erPro; IPR003305; CBM_CenC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      262
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43; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ng and expression of vip3A gene WY-197.";
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(TrEMBLrel. 27, Last sequence update)
(TrEMBLrel. 27, Last annotation updat
insecticidal protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5.5%; Sillarity 100.0%; Conservative 0;
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Submitted (NOV-2002) to the EMBL/GenBank/DDBJ

EMBL; AY074706; AAL69542.1; -; Genomic_DNA.

EMBL; AY187679; AA032350.1; -; Genomic_DNA.

GO; GO:0016491; F:oxidoreductase activity; IEA

InterPro; IPR003305; CBM_CenC.

Pfam; PF02018; CBM_4_9; I.
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Q8RSZ5;
01-JUN-2002 (
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRAIN=YBT-833;

Cai Q., Liu Z.,

Cai Q., Liu Z.,

"Vegetative insecticidal protein gene vip83 from Bacillu
"Vegetative insecticidal protein gene vip83 from Bacillu
thuringiensis serovar leesis strain YBT-833.";

Submitted (JUL-2001) to the EMBL/GenBank/DDBJ databases.

EMBL; AY044227; AAK95326.1; -; Genomic DNA.

GO; GO:0016491; F:oxidoreductase activity; IEA.

InterPro; IPR003305; CBM_CenC.
                                                                                                                         SEQUENCE
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Chen J., Yu J., Tang L., Tang M., Shi Y.,
"Comparison of the expression of Bacillus
and N-terminally truncated vip3A gene in E
J., Appl. Microbiol. 95:310-316(2003).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Name=vip3A;
Bacillus thuringiensis.
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                                                                                                                                             Oxidoreductase.
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Oxidoreductase.
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RESULT 12
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ID Q938Z1 BACTU PRELIMINARY;
AC Q938Z1; Q8L2N0;
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DT 01-DEC-2005 (TrEMBLrel. 30;
DE Vegetative insecticidal pro
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Q58133_E
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                                                                                                                                                                                                                                                                                                                                                                                                                       Abdelkefi Mesrati I., Tounsi S., Jaoua S., "Characterization of a novel vip3-type gene from Bacillus thuringiensis and evidence of its presence on a large play FEMS Microbiol. Lett. 244:353-358(2005).
EMBL, AY739665; AAW65132.1; -; Genomic_DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Submitted (FEB-2005) to the EMBL/GenBank/DDBJ EMBL; AY945939; AAX49395.1; -; Genomic_DNA. Oxidoreductase.
                                                                                                                                                                                                                                                                                                                                                                                                       Oxidoreductase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NUCLEOTIDE SEQUENCE.
Abdelkefi Mesrati L.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bacillus cereus group.
NCBI_TaxID=1428;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bacteria; Firmicutes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE
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Cai J., Xiao L.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bacillus thuringiensis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Name=vip3LB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Vegetative insecticidal
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100.0%;
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    Last sequence update)
    Last annotation update)
    protein Vip3A (Vegetative i

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30, Last annotation updat
protein.
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0; Mismatches
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Pred. No.
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  insecticidal protein
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RESULT 13

QAVYTO BACTU PRELIMINARY; PRT; 789 AA.

AC QAVYTO;
DT 13-SEP-2005 (TREMBLEE1. 31, Created)
DT 13-SEP-2005 (TREMBLEE1. 31, Last sequence update)
DT 13-SEP-2005 (TREMBLEE1. 31, Last sannotation update)
DT 13-SEP-2005 (TREMBLEE1. 31, Last annotation update)
DE Vegetative insecticidal protein.

QN Name=vip3A;
OS Bacillus thuringiensis.
OC Bacillus cereus group.
OC Bacillus cereus group.
OX NCBI_TaxID=1428;
RN (1)
RP NUCLEOTIDE SEQUENCE.
RC STRAIN=BTAB51;
RA Pham N.B., Le N.H., Pham T.T., Chu H.H., Le B.T.;
RA Pham N.B., Le N.H., Pham T.T., Chu H.H., Le B.T.;
RA Pham N.B., Le N.H., Pham T.T., Chu H.H., Le B.T.;
RA Cloning and sequence analysis gene encoding the vegu
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Submitted (NOV-2003) to the EMBL/GenBank/DDBJ

Submitted (NOV-2003) to the EMBL/GenBank/DDBJ

EMBL; AY074707; AAL69543.1; -; Genomic DNA.

EMBL; AY295778; AAP51131.1; -; Genomic DNA.

EMBL; AY295778; AAP51131.1; -; Genomic DNA.

EMBL; AY39303; AAN60738.1; -; Genomic DNA.

EMBL; AY489126; AAR36859.1; -; Genomic DNA.

EMBL; AY074708; AAL69544.1; -; Genomic DNA.

EMBL; AY074708; F.oxidoreductase activity; IEJ

InterPro; IPR003305; CenC_carb_bd.
                                                                                                                                                                                                                                                                                                                                                                                                  Matches
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Best Local
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STRAIN=S101, and 611;
Chen J., Yu J., Pang Y
Submitted (JAN-2002) to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUCLEOTIDE SEQUENCE.

MEDLINE=2224722; PubMed=12356474; DOI=10.1016/S1046-5928(02)00515-6;

Doss V.A., Anup Kumar K., Jayakumar R., Sekar V.;

"Cloning and expression of the vegetative insecticidal protein (vip3V gene of Bacillus thuringiensis in Escherichia coli.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PubMed=15604775; DOI=10.1023/B:BILE.0000045645.45536.3f; Wu Z.L., Guo W.Y., Qiu J.Z., Huang T.P., Li X.B., Guan X.; "Cloning and localization of vip3A gene of Bacillus thuringiensis."; Biotechnol. Lett. 26:1425-1428(2004).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pfam; PF02018;
Oxidoreductase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRAIN=C9;
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Bacillus cereus group.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Name=vip3A; Synonyms=vip3A-WB5, vip3V; Bacillus thuringiensis.
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100.0%; Pr
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Q4U3F4 BACTU
ID Q4U3F4 BACTU
ID Q4U3F4 BAC Q4U3F4 AC Q4U3F4 BAC IN SEP-2
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DT 13
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STRAIN-LS8;
STRAIN-LS8;
Lu X., Hao H., Sun S., Zhu M., Du K., Li G.;
Lu X., Hao H., Sun S., Zhu M., Du K., Li G.;
"Vegetative insecticidal protein gene vip3A-LS8 from Bacillus
"Vegetative insecticidal protein gene vip3A-LS8 from Bacillus
thuringiensis strain LS8.";
Submitted (APR-2005) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRAIN=LS1;
Lu X., Hao H., Sun S., Zhu M., Du K., Li G.;
"Vegetative insecticidal protein gene vip3A-LS1 from Bac:
thuringiensis strain LS1.";
Submitted (APR-2005) to the EMBL/GenBank/DDBJ databases.
EMBL; DQ016968; AAY41427.1; -; Genomic_DNA.
InterPro; IPR003305; CenC_carb_bd.
Pfam; PF02018; CBM_4_9; 1.
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Submitted (MAY-2005) to the EMBL/GenBank/DDBJ databases.
EMBL; AJ971413; CAI96522.1; -; Genomic_DNA.
InterPro; IPR003305; CenC_carb_bd.
Pfam; PF02018; CBM_4_9; 1.
Oxidoreductase.
SEQUENCE 789 AA; 88614 MW; SF255A098B9C86DD CRC64;
                                                                                                                                                                                                                                                                                                                                                                                           Name=vip3A;
Bacillus thuringiensis.
Bacteria; Firmicutes; B
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13-SEP-2005 (TrEMBLrel. 31, Last sequence update)
13-SEP-2005 (TrEMBLrel. 31, Last annotation updat)
Vegetative insecticidal protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q4U3F4 BACTU PRELIMINARY;
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SEQUENCE 789 AA; 88574 MW; A82803275AFEC19C CRC64;
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Bacillus thuringiensis.
Bacteria; Firmicutes; B
Bacillus cereus group.
                                                                                                                                                                                                                                                     NUCLEOTIDE SEQUENCE.
                                                                                                                                                                                                                                                                                                                  Bacillus cereus group.
NCBI_TaxID=1428;
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13-SEP-2005 (TrEMBLrel. 31, Last
Vegetative insecticidal protein.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUCLEOTIDE SEQUENCE.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local
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0; Mismatches
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Oxidoreductase.
SEQUENCE 789 AA; 88540 MW; D4A09EDAA53
267 VGNVYNELIVLTALQAKAFLTLTTCRKLLGLADIDYT
                                                 l Similarity
37; Conserv
                                                4.7%; Score 37; llarity 100.0%; Pred. No. Conservative 0; Mismatcl
                                                                                                   D4A09EDAA53898B3 CRC64;
                                                   Mismatches
                                                3.6e-28;
hes 0;
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Search completed: May 15, 2006, 20:55:35 Job time : 233 secs

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Total number of hits satisfying chosen parameters:
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Gapop 60.0 , Gapext 60.0
                                                                              572060 seqs, 82675679 residues
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786
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Minimum DB seq length: 0
Maximum DB seq length: 200000000 570988

654321 Issued\_Patents\_AA:\*

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4: /cgn2\_6/ptodata/1/iaa/RE\_COMB.pep:\*

5: /cgn2\_6/ptodata/1/iaa/RE\_COMB.pep:\*

Database :

Post-processing: Listing first 45 summaries

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result

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lesult		Query				
No.	Score	Match	Length	B	Ħ	Description
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N	43		511	ν	-09-002-285-8	88
w	43		511	N	-09-589-477-8	88
4	43	5.5	511	N	-10-099-285A-	10
v	43	٠	759	N	-09-002-285-8	e 86,
6	43		759	N	-477-8	æ
7	43	•	759	N	US-10-099-285A-86	e 86,
8	43	٠	789	N	8-960-	0
9	43	٠	789	N	-898-	σ,
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1	43	٠	789	N	US-09-002-285-82	e 82,
12	43	٠	789	N	-285-8	e 84,
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26	43	•	789	N	-351A	Sequence 6, Appli
27	43	٠	789	N	US-10-099-285A-80	80

45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28
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Sequence 78, Appl	Sequence 102, App	Sequence 8, Appli	Sequence 4, Appli	Sequence 2, Appli	•	Sequence 102, App	Sequence 8, Appli	Sequence 4, Appli	Sequence 8, Appli	Sequence 4, Appli	Sequence 100, App	Sequence 96, Appl	•	Sequence 92, Appl	Sequence 90, Appl	•	Sequence 82, Appl

## ALIGNMENTS

RESULT 1

35 H G P H L	
PRILICATION NUMBER: US 60/029,848 FILING DATE: 30-OCT-1996 PRIOR APPLICATION DATA: APPLICATION NUMBER: US 08/960,780 FILING DATE: 30-OCT-1997 PRIOR APPLICATION DATA: APPLICATION NUMBER: US 09/073,898 FILING DATE: 05-MAY-1998	
COMPUTER READABLE FORM:  MEDIUM TYPE: Floppy disk  COMPUTER: IBM PC compatible  OPERATING SYSTEM: PC-DOS/MS-DOS  SOFTWARE: Patentin Release #1.0, Version #1.30  CURRENT APPLICATION DATA:  APPLICATION NUMBER: US/09/307,106  FILING DATE:  CLASSIFICATION:  PRIOR APPLICATION DATA:	
NT: NT: NT: NT: NT: NT: NT: NT: NT: SEE: SEE: SEE: FINV GAI RY: FIT: FIT: RY: RY: NT: NT: NT: NT: NT: NT: NT: NT: NT: NT	
US-09-307-106-54 ; Sequence 54, Application US/09307106 ; Patent No. 6603063 ; GENERAL INFORMATION: APPLICANT: Feitelson, Jerald S. APPLICANT: Schnepf, H. Ernest APPLICANT: Stockhoff, Brian A. APPLICANT: Stockhoff, Brian A. APPLICANT: Schmeits, James APPLICANT: Loewer, David APPLICANT: Loewer, David APPLICANT: Maller-Cohn, Judy	

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; MOLECULE TYPE: US-09-002-285-88
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; Patent No. 6369213
; GENERAL INFORMATION:
; APPLICANT: Schnepf
APPLICANT: Wicker,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-307-106-54
Query Match
Best Local Similarity
Matches 43; Conserv
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Matches
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APPLICATION NUMBER: US 08/886.

PILLING DATE: 1-UUL-1997

PRIOR APPLICATION DATA:

APPLICATION NUMBER: US 08/674.

PILLING DATE: 1-UUL-1996

ATTORNEY/AGENT INFORMATION:

NAME: Sanders, Jay M.

REGISTRATION NUMBER: 39,355

REGISTRATION NUMBER: MA-7/

TELECOMMUNICATION INFORMATION:

TOTECOMMUNICATION INFORMATION:
                                                                                                                                                                       TELEPAX: (352) 372-580
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEFAX: 352-372-5800
INFORMATION FOR SEQ ID NO: 9
SEQUENCE CHARACTERISTICS:
LENGTH: 787 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

COMPATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOFTWARE: Patentin
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Muller-Cohn, Judy
TITLE OF INVENTION: Toxins Active Against Pests
NUMBER OF SEQUENCES: 105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MOLECULE TYPE: protein
                                                                                                  TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STATE: F
                                                                                                                                                                                                           TELEPHONE: (352) 375-8100
TELEFAX: (352) 372-5800
                                                                                                                                                                                                                                                                                                                                                                                                                                  CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      / Match 5.7%; Score 45; DB Local Similarity 100.0%; Pred. No. 4.3 res 45; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                        FILING DATE:
                                                                                                                                                         LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRANDEDNESS: single TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: amino acid
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                                                                                                                                                       511 amino acids
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2421 N.W. 41st Street, Suite A-1
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Narva, Kenneth E.
Walz, Michelle
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5.5%; Score 43; DB 2; Idiarity 100.0%; Pred. No. 3.3e-35; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          USA
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                                                                                       protein
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                                                                                                                                                                                                                                                             MA-701C2
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                                 Length 511;
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 Gaps
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US-10-099-285A-88; Sequence 88, Application US/10099285A; Patent No. 6752992; GENERAL INFORMATION:
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                                                                     RESULT 4
                                                                                                                                                                                                                                                                ; MOLECULE TYPE: protein US-09-589-477-88
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US-09-589-477-88
                                                                                                                                                                                     Query Match 5.5%; Score 43; DB 2; Louis Local Similarity 100.0%; Pred. No. 3.3e-35; Matches 43; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 88, Appliant No. 6570005
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GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                   NAME: Sanders, Jay M.
REGISTRATION NUMBER: 39,355
REFERENCE/DOCKET NUMBER: MA-
TELECOMMUNICATION INFORMATION:
TELEPHONE: (352) 375-8100
                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US OF FILING DATE: 1-JUL-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/886,615
FILING DATE: 1-JUL-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PACENTIN
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/589,477
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MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Stockhoff, Brian
TITLE OF INVENTION: Toxins Active Against Pests
NUMBER OF SEQUENCES: 105
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                               STRANDEDNESS: sir
                                                                                                                                                                                                                                                                                                                                     TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FILING DATE:
CLASSIFICATION:
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STREET: 2421 N.W. 41st Street, Suite A-1
CITY: Gainesville
STATE: Florida
                                                                                                                                                                                                                                                                                                                                                    LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COUNTRY:
                                                                                                                        122
                                                                                                                                             261 KTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLADIDYT 303
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                                                                                                                                                                                                                                                                                                                                  amino acid
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                                                                                                                                                                                                                                                                                                                                                  511 amino acids
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Narva, Kenneth E.
Walz, Michelle
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                                                                                                                                                                                                                                                                                                               single
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                                                                                                                                                                                           Indels
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APPLICANT: Schnepf, H. Ernest

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Florida

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US-09-002-285-86
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                                                                                        GENERAL INFORMATION:
APPLICANT: Schnepf
APPLICANT: Wicker,
APPLICANT: Walz,
APPLICANT: Walz,
APPLICANT: Stockhol
APPLICANT: Muller-O
                                                                                                                                                                                                                      Sequence 86, Appl
Patent No. 636921
                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
TITLE OF INVENTION: Toxins Active Against Pests
NUMBER OF SEQUENCES: 105
CORRESPONDENCE ADDRESS:
ADDRESSEE: Saliwaran.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEPHONE: (352) 375-810
TELEPAX: (352) 372-5800
INFORMATION FOR SEQ ID NO: 88
SEQUENCE CHARACTERISTICS:
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APPLICATION NUMBER: US 09/002, 285
FILING DATE: 31-DEC-1997
APPLICATION NUMBER: US 08/886, 615
FILING DATE: 1-JUL-1997
APPLICATION NUMBER: US 08/674,002
FILING DATE: 1-JUL-1996
ATTORNEY/AGENT INFORMATION:
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MEDIUM TYPE: Floppy disk

COMPUTER: IEM PC compatible

COMPUTER: IEM PC COMPATIBLE

COMPUTER: PATENTIN

CORRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REGISTRATION NUMBER: 39,355
REFERENCE/DOCKET NUMBER: MA-701C2D1
TELECOMMUNICATION INFORMATION:
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TITLE OF INVENTION: Toxins Active Against Pests
NUMBER OF SEQUENCES: 105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                           261 KTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLADIDYT 303
                                                                                                                                                                                                                                                                                                                                      122 KTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLADIDYT 164
                                                                                                                                                                                                                                                                                                                                                                                                               43;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: amino acid
STRANDEDNESS: single
                                                                                                  Wicker, Carol
Narva, Kenneth E.
Walz, Michelle
Stockhoff, Brian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TOPOLOGY: linear
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STATE: Florida
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ADDRESSEE: Saliwanchik, Lloyd & Saliwanchik
STREET: 2421 N.W. 41st Street, Suite A-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME: Sanders, Jay M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CLASSIFICATION: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ZIP: 32606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COUNTRY: USA
                                                                                                                                                                                                                                           Application US/09002285
                                                                                                                                                              Schnepf, H. Ernest
Wicker, Carol
                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
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Narva, Kenneth E.
Walz, Michelle
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; Pred. No. 3.3e-35;
                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 511;
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; MOLECULE TYPE: protein US-09-002-285-86
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Best Local Similarity 100.0%; F
Matches 43; Conservative 0;
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Patent No. 6
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APPLICATION NUMBER: US 08/886,615
FILING DATE: 1-JUL-1997
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/674,002
FILLING DATE: 1-JUL-1996
ATTORNEY/AGENT INFORMATION:
NAME: Sanders, Jay M.
REFERENCE/DOCKET NUMBER: 39,355
REFERENCE/DOCKET NUMBER: MA-701C2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEFAX: (352) 372-5800
INFORMATION FOR SEQ ID NO: (SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
APPLICANT:
APPLICANT:
CLASSIFICATION:
PRIOR APPLICATION NUMBER: US 08/886,615
                                                                                                                                                  COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                   CURRENT APPLICATION DATA:
APPLICATION NUMBER: US
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                 CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                    TITLE OF INVENTION: Toxins Active Against Pests NUMBER OF SEQUENCES: 105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELECOMMUNICATION INFORMATION:
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                                                                                                                                                                                                                 STREET: 2421 N.W. 41st Street, CITY: Gainesville STATE: Florida
                                                                                                COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: PatentIn
                                                                                                                                                                                    ZIP:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STATE: F
                                                     FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: amino a
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FILING DATE:
CLASSIFICATION:
                                                                                                                                                                                                  COUNTRY: USA
                                                                                                                                                                                                                                                                   ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER: IBM PC
OPERATING SYSTEM:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEPHONE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             261 KTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLADIDYT 303
                                                                                                                                                                                  32606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Application US/09589477
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Narva, Kenneth E.
Walz, Michelle
                                                                                                                                                                                                                                                                                                                                 Stockhoff, Brian
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                                                                                                                                              Floppy disk
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                                                                   US/09/589,477
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4.8e-35;
hes 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 86, Application US/10099285A Patent No. 6752992
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 5.5%; Score 43; DB 2; L
Best Local Similarity 100.0%; Pred. No. 4.8e-35;
Matches 43; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEFAX: (352) 372-5800 INFORMATION FOR SEQ ID NO: 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME: Sanders, Jay M.
REGISTATION NUMBER: 39,355
REFERENCE/ON NUMBER: MA-
REFERENCE/DOCKET NUMBER: MA-
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION 375-8100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE CHARACTERISTICS:
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ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ENGTH:
                                                                                                                                                                                                                                       CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/10/099,285A
FILING DATE: 02-Jul-2002
CLASSIFICATION: <Unknown>
                                                                           APPLICATION NUMBER: US 09/002,285
FILING DATE: 31-DEC-1997
APPLICATION NUMBER: US 08/886,615
FILING DATE: 1-UUL-1997
APPLICATION NUMBER: US 08/674,002
FILING DATE: 1-UUL-196
ATTORNEY/AGENT INFORMATION:
NAME: Sanders, Jay M.
REGISTRATION NUMBER: 39,355
REFERENCE/DOCKET NUMBER: MA-701C2D1
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Muller-Cohn, Judy
TITLE OF INVENTION: Toxins Active Against Pests
NUMBER OF SEQUENCES: 105
                                                                                                                                                                                                                           PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CORRESPONDENCE ADDRESS:
ADDRESSEE: Saliwanchik, Lloyd & Saliwanchik
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Schnepf,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               261 KTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLADIDYT 303
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           amino acid
                                                                                                                                                                                                                                                                                                                                      COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CITY: Gainesville
STATE: Florida
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STREET: 2421 N.W. 41st Street,
                                                                                                                                                                                                                                                                                                                                                                                                                                                COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          759 amino acids
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Narva, Kenneth E.
Walz, Michelle
                                                                                                                                                                                                                                                                                                                                                                                                                                 32606
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1-JUL-1996
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        86:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Suite A-1
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US-08-960-780-6
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                    CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION UNMBER: US 60/029,848
FILING DATE: 30-OCT-1996
ATTORNEY/AGENT INFORMATION:
NAME: Saliwanchik, David R.
REGISTRATION NUMBER: 31,794
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
APPLICANT: Feitel
APPLICANT: Schnep
                                                                                                                                    TELEFAX: 352-372-5800 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        INFORMATION FOR SEQ ID NO: 86: SEQUENCE CHARACTERISTICS: LENGTH: 759 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IEM PC compatible
COMPUTER: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
              MOLECULE TYPE: protein ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                    SEQUENCE CHARACTERISTICS
                                                                                                                                                                                 REFERENCE/DOCKET NUMBER: MA-708
REFERENCE/DOCKET NUMBER: MA-708
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE OF INVENTION: No. 6204435el Pesticidal Toxins and Nucleotide TITLE OF INVENTION: Sequences Which Encode These Toxins
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: US/0 FILING DATE: 30-OCT-1997
                                                                STRANDEDNESS:
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INDIVIDUAL ISOLATE: 81Fd
                                                  TOPOLOGY:
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                                                                                                  ENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TOPOLOGY: linear MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MOLECULE TYPE: protein SEQ ID NO: 86:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   262 KTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLADIDYT 304
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                                                                                amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gainesville
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: amino acid
STRANDEDNESS: single
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                                                                                                789 amino acids
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2421 N.W. 41st Street, Suite A-1
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Stamp, Lisa
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Schmeits, James
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                                                linear
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Dullum, Charles Joseph
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                                                                                                                                                                      352-375-8100
                                                                single
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RESULT 9
US-09-073-898-6
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                                                                     US-09-073-898-6
      Matches
                  Query Match
Best Local Similarity
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Best Local Similarity
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                                                                                                                                                                                                              TELEPHONE: 352-375-8100
TELEPAX: 352-372-5800
INFORMATION FOR SEQ ID NO: 6:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ZIP: 32606-6669

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC comparible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/073,898
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                          PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 60/029,848
FILING DATE: 30-0CT-1996
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/960,780
FILING DATE: 30-0CT-1997
ATTORNEY/AGENT INFORMATION:
                                                                                                  MOLECULE TYPE:
ORIGINAL SOURCE
                                                                                                                                                                            SEQUENCE CHARACTERISTICS:
LENGTH: 789 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE OF INVENTION:
TITLE OF INVENTION:
NUMBER OF SEQUENCES:
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APPLICANT:
APPLICANT:
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                                                                                  INDIVIDUAL ISOLATE:
                                                                                                                                  TOPOLOGY:
                                                                                                                                                 STRANDEDNESS:
                                                                                                                                                                                                                                                                                REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                              NAME: Sanders, Jay M. REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STREET: 2421 N.W. CITY: Gainesville
                                                                                                                                                                                                                                                                                                                                                                                                                                              CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADDRESSEE: Sallwanchik, Lloyd & Sallwanchik STREET: 2421 N.W. 41st Street, Suite A-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       262 KTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLADIDYT 304
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                                                                                                                                                               amino acid
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Narva, Kenneth E.
Stockhoff, Brian A.
Schmeits, James
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Finstad-Lee, Stacey
Finstad-Lee, Stacey
VENTION: No. 6242669el Pesticidal Toxins and Nucleotide
VENTION: Sequences Which Encode These Toxins
EQUENCES: 144
   Conservative 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
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Stamp, Lisa
Morrill, George
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Dullum, Charles Joseph
                                                                                                                                  linear
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                                                                                                               protein
                                                                                                                                              single
5.5%; Score 43; DB
100.0%; Pred. No. 4.1
ive 0; Mismatches
                                                                                  81Fd
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                                                                                                                                                                                                                                                                                          39,355
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                                 DB 2;
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 4.9e-35;
hes 0;
                              Length 789;
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   Indels
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RESULT 11
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US-09-002-285-80
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GENERAL INFORMATION:
APPLICANT: Schnepf
APPLICANT: Wicker,
APPLICANT: Narva,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 10
US-09-002-285-80
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                                                                                                          Matches
                                                                                                                                      Query Match
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                                                                                                                                                                                                                                                          TELEFAX: (352) 372-580
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                   PRIOR APPLICATION DATA:

APPLICATION NUMBER: US 08/

PILING DATE: 1-JUL-1997

PRIOR APPLICATION DATA:

APPLICATION NUMBER: US 08/

FILING DATE: 1-JUL-1996

ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                      REGISTRATION NUMBER: 39,355
REFERENCE/DOCKET NUMBER: MA
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOFTWARE: Patentin CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Stockhoff, Brian
APPLICANT: Muller-Cohn, Judy
TITLE OF INVENTION: Toxins Active Against Pests
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CORRESPONDENCE ADDRESS:
ADDRESSEE: Saliwanch
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE:
CLASSIFICATION:
                                                                                                                       Local Similarity
                                                                                                                                                                                                 TOPOLOGY:
                                                                                                                                                                                                              STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US/09/002,285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STREET:
                                                                                                                                                                                                                                                                                                            TELEPHONE:
                                                                                                                                                                                                                                             ENGTH:
                                           261 KTSGSEVGNVYNPLIVLTALQAKAFLTLTTCRKLLGLADIDYT 303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           262
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                                                                                                         43;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            32606
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: Florida
                                                                                                                                                                                                                             amino acid
                                                                                                                                                                                                                                                                                                                                                                      Sanders, Jay M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLADIDYT 304
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2421 N.W. 41st Street, Suite A-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Application US/09002285
                                                                                                                                                                                                                                             789 amino acids
                                                                                                                                                                                                                                                                                            (352) 372-5800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Schnepf, H. Ernest
Wicker, Carol
Narva, Kenneth B.
Walz, Michelle
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                                                                                                         Conservative
                                                                                                                                                                                                     linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IBM PC compatible
                                                                                                                                                                                                                                                                                                              (352) 375-8100
                                                                                                                                                                                   protein
                                                                                                                                                                                                                single
                                                                                                  5.5%; but
100.0%; Pr
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                                                                                                       Score 43; DB 2; L; Pred. No. 4.9e-35; 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                           MA-701C2
                                                                                                                                    Length 789;
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US-09-002-285-82

Sequence 82, Appl Patent No. 636921

Application US/09002285

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GENERAL INFORMATION:
APPLICANT: Schnepf
APPLICANT: Wicker,
APPLICANT: Narva,

Schnepf, H. Ernest Wicker, Carol Narva, Kenneth E.

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RESULT 12
US-09-002-285-84
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                                                                                                                                                                                                                                                                                                                             Sequence 84,
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                                                                                                                                                                                                                                                                                                          Patent No.
                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
APPLICANT: Schnep
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/886,615
FILING DATE: 1-JUL-1997
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/674,002
FILING DATE: 1-JUL-1996
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEFAX: (352) 372-5800 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                            APPLICANT:
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COMPUTER READABLE FORM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Walz, Michelle
APPLICANT: Stockhoff, Brian
APPLICANT: Muller-Cohn, Judy
TITLE OF INVENTION: Toxins Active Against Pests
NUMBER OF SEQUENCES: 105
                                                                                                                                        APPLICANT: Muller-Cohn, Judy
TITLE OF INVENTION: Toxins Active Against Pests
NUMBER OF SEQUENCES: 105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE CHARACTERISTICS:
LENGTH: 789 amino acids
                                                                                                                     CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                  APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELECOMMUNICATION INFORMATION:
TELEPHONE: (352) 375-8100
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MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CURRENT APPLICATION DATA:
                  COUNTRY: U
                                                     STATE:
                                                                                     STREET:
                                               ADDRESSEE: Saliwanchik, Lloyd & Saliwanchik
STREET: 2421 N.W. 41st Street, Suite A-1
CITY: Gainesville
STATE: Florida
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STRANDEDNESS: single TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME: Sanders, Jay M.
REGISTRATION NUMBER: 39,
REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: PatentIn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADDRESSEE: Saliwanchik, Lloyd & Saliwanchik
STREET: 2421 N.W. 41st Street, Suite A-1
CITY: Gainesville
STATE: Florida
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                                                                                                                                                                                                                                                                                                                                                                                                                261 KTSGSEVGNYYNFLIVLTALQAKAFLTLTTCRKLLGLADIDYT 303
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Wicker, Carol
Narva, Kenneth E.
Walz, Michelle
Stockhoff, Brian
                                  USA
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ER: MA-701C2
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US-09-002-285-90
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APPLICANT: Schnepf
APPLICANT: Wicker,
APPLICANT: Narva,
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No. 6369213
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APPLICATION NUMBER: US/09/002,285
FILING DATE:
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/886,615
FILING DATE: 1-JUL-1997
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/674,002
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME: Sanders, Jay M.
REGISTRATION NUMBER: 39,355
REFERENCE/DOCKET NUMBER: MA-1
TELECOMMUNICATION INFORMATION:
TELEPHONE: (352) 375-8100
TELEFAX: (352) 372-5800
                                                                                                                                           COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin
CURRENT APPLICATION DATA:
                                                                                                                                                                                                            ZIP: 32606
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRANDEDNESS: single TOPOLOGY: linear MOLECULE TYPE: protein
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: US (
FILING DATE: 1-JUL-1996
                                                                                                                                                                                                                                                                                                                                                               CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Muller-Cohn, Judy
TITLE OF INVENTION: Toxins Active Against Pests
NUMBER OF SEQUENCES: 105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE CHARACTERISTICS:
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APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                            STREET:
CITY: G
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                                                                                                                                                                                                                                                                      COUNTRY: USA
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                                                                                                                                                                                                                                                       32606
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T: 2421 N.W. 41st Street, Suite A-1
Gainesville
Florida
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Similarity 100.0%; Pred. No. 4.9e-35;
43; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   amino acid
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Walz, Michelle
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linear
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                                                                                                                                                                                                                  Floppy disk
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RESULT 14
US-09-002-285-92
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GENERAL INFORMATION:
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                                                                                                                                                    PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/886,615
FILING DATE: 1-JUL-1997
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/674,002
FILING DATE: 1-JUL-1996
ATTORNEY/AGENT INFORMATION:
NAME: Sanders, Jay M.
REGISTRATION NUMBER: 39,355
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                         TELEFAX: (352) 372-5800
INFORMATION FOR SEQ ID NO: 92:
SEQUENCE CHARACTERISTICS:
LENGTH: 789 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEFAX: (352) 372-5800 INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
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APPLICANT:
                                                                                              REFERENCE/DOCKET NUMBER: MA-701C2
TELECOMMUNICATION INFORMATION:
TELEPHONE: (352) 375-8100
                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Muller-Cohn, Judy
TITLE OF INVENTION: Toxins Active Against Pests
NUMBER OF SEQUENCES: 105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Schnepf, H. Ernest
APPLICANT: Wicker, Carol
APPLICANT: Narva, Kenneth E.
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TELECOMMUNICATION INFORMATION:
TELEPHONE: (352) 375-8100
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FILING DATE: 1-JUL-1996
ATTORNEY/AGENT INFORMATION:
STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                     CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                        SOFTWARE: PatentIn
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5.5%; Score 43; DB
Local Similarity 100.0%; Pred. No. 4.9
nes 43; Conservative 0; Mismatches
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REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: amino acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     261 KTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLADIDYT 303
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              amino acid
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2421 N.W. 41st Street, Suite A-1
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Walz, N
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Stockhoff, Brian
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                                                                                                                ; TOPOLOGY: linear; MOLECULE TYPE: protein US-09-002-285-94
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US-09-002-285-92
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US-09-002-285-94
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                                                         Matches
                                                                      Query Match
Best Local Similarity
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                                                                                                                                                                                                                TELEPHONE: (352) 375-8100
TELEFAX: (352) 372-5800
INFORMATION FOR SEQ ID NO: 94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL INFORMATION: APPLICANT: Schnep
                                                                                                                                                                                     SEQUENCE CHARACTERISTICS:
LENGTH: 789 amino acids
                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: US 08/674,002 FILING DATE: 1-JUL-1996 ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Stockhor, Judy
APPLICANT: Muller-Cohn, Judy
TNYENTION: Toxins Active Against Pests
                                                                                                                                                                                                                                                             NAME: Sanders, Jay M.
REGISTRATION NUMBER: 39,355
REFERENCE/DOCKET NUMBER: MA
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                PRIOR APPLICATION DATA:
APPLICATION NUMBER: 1
FILING DATE: 1-JUL-1:
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOFTWARE: PatentIn CURRENT APPLICATION DATA:
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                                                                                                                                                                         TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                             CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER: IBM PC
OPERATING SYSTEM:
                                                                                                                                                                                                                                             TELEPHONE:
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Local Similarity 100.0%;
262 KTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLADIDYT 304
               261 KTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLADIDYT 303
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2421 N.W. 41st Street, Suite A-1
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                                                        Conservative
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SYSTEM: PC-DOS/MS-DOS
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Search completed: May 15, 2006, 20:57:18 Job time : 48 secs

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Maximum DB seq length: 200000000
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2: /cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*

3: /cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*

4: /cgn2_6/ptodata/1/pubpaa/US108_PUBCOMB.pep:*

5: /cgn2_6/ptodata/1/pubpaa/US108_PUBCOMB.pep:*

6: /cgn2_6/ptodata/1/pubpaa/US11_PUBCOMB.pep:*
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         GenCore version 5.1.8 (c) 1993 - 2006 Biocceleration Ltd
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US-10-493-687-2
US-10-493-687-7
US-10-505-315-17
US-10-505-315-32
US-09-850-351A-8
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Sequence 17, Appl Sequence 54, Appl Sequence 25, Appl Sequence 88, Appl Sequence 19, Appl Sequence 19, Appl Sequence 7, Appli Sequence 7, Appli Sequence 7, Appli Sequence 11, Appl Sequence 11, Appl Sequence 6, Appli Sequence 80, Appl Sequence 80, Appl Sequence 81, Appl Sequence 90, Appl Sequence 91, Appl Sequence 92, Appl Sequence 94, Appl Sequence 95, Appl Sequence 96, Appl Sequence 97, Appl Sequence 97, Appl Sequence 98, Appl Sequence 98, Appl Sequence 98, Appl Sequence 99, Appl Sequence 98, Appl Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100, App Sequence 100
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Sequence sequence sequence sequence sequence sequence sequence sequence sequence sequence sequence sequence sequence sequence	13500, A	11034, A	54522, A	269, App	4031, Ap	312302,	29, Appl	1417, Ap	9, Appli	6, Appli	4, Appli	98, Appl	<ol> <li>Appli</li> </ol>	<ol> <li>Appli</li> </ol>	78, Appl	8, Appli	4, Appli	יייה היי

## ALIGNMENTS

RESULT 1 US-10-698-096-17

Sequence 17, Application US/10698096 Publication No. US20040128716A1 GENERAL INFORMATION:

Qy bb	Qy db	Qy Db	D Q	dg VQ	Query Match Best Local Matches 78	HAPPLICANT: M TITLE OF INVE CURRENT APPLICA CURRENT PILLN CURRENT FILLNG PRIOR APPLICA PRIOR APPLICA PRIOR APPLICA PRIOR APPLICA PRIOR FILLNG PRIOR FILLNG PRIOR FILLNG PRIOR FILLNG PRIOR FILLNG PRIOR FILLNG PRIOR FILLNG PRIOR FILLNG PRIOR FILLNG PRIOR FILLNG PRIOR FILLNG PRIOR FILLNG PRIOR FILLNG PRIOR FILLNG PRIOR FILLNG PRIOR FILLNG PRIOR FILLNG PRIOR FILLNG PRIOR FILLNG PRIOR OF SEQ SOPTWARE: Pat LENGTH: 786 TYPE: PT ORGANISM: Ba US-10-698-096-17	, APPLICANT:
241 NLFGRSALKTASELIAKENLKTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLADI 300 	181 KPEALTSATETNIKTKODSSHTDILDELTELTELAKSVTKNDVDGFEFYLNTFHDVMIGN 240 	121 TSMLSDVMKQNYALGLQIEYLSKQLKEISDKLDVINVNVLINSTLTEITPAYQRIKYVNE 180 	61 SGKLDGVNGSLNDLLAQGNLDTELSKEILKIANEQNKVLNDVNTKLDAINLMLNTYLPKI 120 	1 mokniklsykaldsfidyfngiygfatgikdimimifktniggdlitldeilknoollnei 60 	<pre>/ Match 100.0%; Score 786; DB 4; Length 786; Local Similarity 100.0%; Pred. No. 0; Local Similarity 100.0%; Pred. No. 0; Indels 0; Gaps 0;</pre>	APPLICANT: Merlo, Donald TITLE OF INVESTION: Polynucleotides, Pesticidal Proteins, and Novel Methods of Using FILE REFERENCE: MA-708CDC1 CURRENT APPLICATION NUMBER: US/10/698,096 CURRENT APPLICATION NUMBER: US 09/850,351 PRIOR APPLICATION NUMBER: US 09/850,351 PRIOR FILING DATE: 2001-05-07 PRIOR FILING DATE: 1998-05-06 PRIOR APPLICATION NUMBER: US 08/690,780 PRIOR APPLICATION NUMBER: US 08/690,780 PRIOR FILING DATE: 1997-10-30 PRIOR FILING DATE: 1997-10-30 PRIOR FILING DATE: 1996-10-30 NUMBER: OF SEQ ID NOS: 27 SOFTWARE: PatentIn version 3.1 EQ ID NO 17 LENGTH: 786 TYPE: PAT ORGANISM: Bacillus thuringiensis	Narva, F

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US-10-452-002A-54
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APPLICANT:
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                                                                                                                                                                                           PRIOR FILING DATE: 1996-10-30
NUMBER OF SEQ ID NOS: 54
                                                                                                                                                                                                                                                                                                             CURRENT FILING DATE: 2003-05-30
PRIOR APPLICATION NUMBER: 09/307,106
PRIOR FILING DATE: 1999-05-07
PRIOR APPLICATION NUMBER: 09/073,898
PRIOR FILING DATE: 1998-05-06
PRIOR EFILING DATE: 1998-05-06
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CURRENT APPLICATION NUMBER: US/10/452,002A
CURRENT FILING DATE: 2003-05-30
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APPLICANT: Stacey Finstad Lee
TITLE OF INVENTION: No. US20030236195Alel Pesticidal Proteins and Methods of Using
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Jerald S. Feitelson
             LENGTH: 787
TYPE: PRT
ORGANISM: Bacillus thuringiensis strain KB59A4-6
                                                                                                                                                                                                                                                           APPLICATION NUMBER: 60/029,848
                                                                                                                                                                                                                                                                                         FILING DATE: 1997-10-30
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                                                                                                                                                             PatentIn
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Kenneth E. Narva
Brian A. Stockhoff
James L. Schmeits
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Judy Muller-Cohn
Lisa Stamp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              David Loewer
                                                                                                                                                             Ver.
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US-10-698-096-27
Sequence 27, Application US/10698096
Publication No. US20040128716A1
GENERAL INFORMATION:
APPLICANT: Merro, Kenneth
APPLICANT: Merro, Donald
TITLE OF INVENTION: Polynucleotides, Pesticidal
FILE REFERENCE: MA-708CDC1
; ORGANISM: Bacillus thuringiensis US-10-698-096-27
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                                                                                                                                                  CURRENT APPLICATION NUMBER: US/10/698,096
CURRENT FILING DATE: 2003-10-31
PRIOR APPLICATION NUMBER: US 09/850,351
PRIOR FILING DATE: 2001-05-07
PRIOR APPLICATION NUMBER: US 09/073,898
PRIOR FILING DATE: 1998-05-06
PRIOR APPLICATION NUMBER: US 08/690,780
PRIOR PRILING DATE: 1997-10-30
PRIOR APPLICATION NUMBER: US 60/029,848
PRIOR APPLICATION NUMBER: US 60/029,848
PRIOR APPLICATION NUMBER: US 60/029,848
PRIOR FILING DATE: 1996-10-30
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CURRENT FILING DATE: 2003-10-31
PRIOR APPLICATION NUMBER: US 09/850,351
PRIOR FILING DATE: 2001-05-07
PRIOR APPLICATION NUMBER: US 09/073,898
PRIOR FILING DATE: 1998-05-06
PRIOR APPLICATION NUMBER: US 08/690,780
PRIOR FILING DATE: 1997-10-30
PRIOR APPLICATION NUMBER: US 60/029,848
PRIOR APPLICATION NUMBER: US 60/029,848
PRIOR APPLICATION NUMBER: US 60/029,848
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                                         SEQ ID NO 27
LENGTH: 788
TYPE: PRT
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LENGTH: 787
TYPE: PRT
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Best Local S
Matches 45
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Publication No. US20040128716A1
GENERAL INFORMATION:
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APPLICANT: Merlo, Donald
TITLE OF INVENTION: Polynucleotides, Pesticidal Proteins, and Novel Methods of Using
FILE REFERENCE: MA-708CDC1
                                                                                                           NUMBER OF SEQ ID NOS: 27
SOFTWARE: PatentIn version 3.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQ ID NOS: 27
SOFTWARE: PatentIn version 3.1
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Local Similarity 100.0%; Pred. No. 7e
hes 45; Conservative 0; Mismatches
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100.0%; Pr
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Pred. No.
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). 7e-34;
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7e-34;
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RESULT 6
US-10-099-285-86
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US-10-099-285-88
; Sequence 88, Application US/10099285
; Publication No. US20030105319A1
; GENERAL INFORMATION:
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                                                                                                                                          Matches
                                                                                                                                                         Query Match
Best Local Similarity
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Best Local
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APPLICATION NUMBER: 09/002,285
FILING DATE: «Unknown»
APPLICATION NUMBER: US 08/886,615
FILING DATE: 1-JUL-1997
FILING DATE: 1-JUL-1997
                                                                                                                                                                                                                          MOLECULE TYPE: protein SEQUENCE DESCRIPTION: SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                        NAME: Sanders, Jay M.
REGISTRATION NUMBER: 39,355
REFERENCE/DOCKET NUMBER: MA-701C2
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: US 08/674,002 FILING DATE: 1-JUL-1996 ATTORNEY/AGENT INFORMATION:
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APPLICATION NUMBER: US/10/099,285
FILING DATE: 15-Mar-2002
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MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE OF INVENTION: Toxins Active Against Pests NUMBER OF SEQUENCES: 105
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Schnepf, H. Brnest
                                                                                        261 KTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLADIDYT 303
                                                                  122 KTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLADIDYT 164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             141 EYLSKQLKEISDKLDVINVNVLINSTLTEITPAYQRIKYVNEKFE 185
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                                                                                                                                                                                                                                                           STRANDEDNESS: single TOPOLOGY: linear
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                                                                                                                                                                                                                                                                                                  TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                    TELEPHONE: (35:
TELEFAX: (352)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CLASSIFICATION: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: Patentin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ZIP: 32606
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                                                                                                                                                                                                                                                                                                                   ENGTH: 511 amino acids
                                                                                                                                        Conservative
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Narva, Kenneth E.
Walz, Michelle
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ller-Cohn, Judy
                                                                                                                                   5.5%; Score 43; DB
100.0%; Pred. No. 4e-
vative 0; Mismatches
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100.0%; Pred. No.
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                                                                                                                               4e-32;
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                                                                                                                                                                      DB 4; Length 511;
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                                                                                                                                       Gaps
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US-10-698-096-19
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Sequence 19, Application US/10698096
Publication No. US20040128716A1
GENERAL INFORMATION:
APPLICANT: Marva, Kenneth
APPLICANT: Merlo, Donald
TITLE OF INVENTION: Polynucleotides, Pesticidal Proteins, and Novel Methods of Using
PILE REFERENCE: MA-708CDC1
CURRENT EPLICATION NUMBER: US/10/698,096
CURRENT FILING DATE: 2003-10-31
PRIOR APPLICATION NUMBER: US 09/850,351
PRIOR FILING DATE: 2001-05-07
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                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: US/10/099,285
FILING DATE: 15-Mar-2002
CLASSIFICATION: <Unknown>
PRIOR APPLICATION DATA:
APPLICATION UNMBER: 09/002,285
FILING DATE: <Unknown>
APPLICATION NUMBER: US 08/886,615
FILING DATE: 1-JUL-1997
APPLICATION NUMBER: US 08/674,002
FILING DATE: 1-JUL-1996
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                               Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TOPOLOGY: linear MOLECULE TYPE: protein SEQUENCE DESCRIPTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAME: Sanders, Jay M.
REGISTRATION NUMBER: 39,355
REFERENCE/DOCKET NUMBER: MA-701C2
TELECOMMUNICATION INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Schnepf, H. Ernest
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE OF INVENTION: Toxins Active Against Pests
                                                                                                                                                                                                                                                                                                                                                 261 KTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLADIDYT 303
                                                                                                                                                                                                                                                                                                                         262 KTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLADIDYT 304
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                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: amino acid
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STATE: Florida
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LENGTH: 759 amino acids
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Narva, Kenneth E.
Walz, Michelle
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100.0%;
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; Pred. No. 5.7e-
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ches 0;
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Query Match
Best Local Similarity
Matches 43; Conserve
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; SEO ID NO 19
; LENGTH: 786
; TYPE: PRT
; ORGANISM: Bacillus thuringiensis
US-10-698-096-19
                                                                                                                                                                                                                                                                                                                                       US-10-473-687-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; ORGANISM: Bacillus thuringiensis US-10-473-687-2
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SOFTWARE: PatentIn version 3.0
SEQ ID NO 7
LENGTH: 787
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                                                                                                                                                                                                                                                                                            Sequence 7, Application US/10473687 Publication No. US20040133942A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOFTWARE: PatentIn version 3.0 SEQ ID NO 2 LENGTH: 787
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Best Local Similarity
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APPLICANT: Kramer, Vance
APPLICANT: Shen, Zhicheng
APPLICANT: Shotkoski, Frank
                                                              APPLICANT: Warren, Greg
TITLE OF INVENTION: NOVEL PESTICIDAL TOXINS
FILE REFERENCE: S-6000DPCT
CURRENT APPLICATION NUMBER: US/10/473,687
CURRENT FILING DATE: 2003-09-27
NUMBER OF SEQ ID NOS: 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FILE REFERENCE: S-60000PCT
CURRENT APPLICATION NUMBER: US/10/473,687
CURRENT FILING DATE: 2003-09-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Miles, Paul
APPLICANT: Kramer, Vance
APPLICANT: Shen, Zhicheng
APPLICANT: Shotkoski, Frank
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TITLE OF INVENTION: Novel Pesticidal Toxins
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PRIOR FILING DATE: 1998-05-06
PRIOR APPLICATION NUMBER: US 08/690,780
PRIOR FILING DATE: 1997-10-30
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: PRT
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Conservative 0;
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; ORGANISM: Bacillus thuringiensis ; FEATURE; ; NAME/KEY: MISC_FEATURE ; LOCATION: (1)...(787) ; OTHER INFORMATION: Vip3B Toxin US-10-505-315-7
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US-10-505-315-7
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Publication No. US20050210545A1
GENERAL INFORMATION:
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SEQ ID NO 11
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Publication No. US20050210545A1
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               FILE REFERENCE: 60163PCT
CURRENT APPLICATION NUMBER: US/10/505,315
CURRENT FILING DATE: 2004-08-19
PRIOR APPLICATION NUMBER: US 60/362250
PRIOR FILING DATE: 2002-03-06
NUMBER OF SEQ ID NOS: 33
SOPTWARE: Patentin version 3.2
                                                                                                                                                                                                      APPLICANT: Warren, Gregory
APPLICANT: Shotkoski, Frank
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APPLICANT: Shen, Zhicheng
APPLICANT: Warren, Gregory
APPLICANT: Warren, Gregory
APPLICANT: Shotkoski, Frank
APPLICANT: Kramer, Vance
TITLE OF INVENTION: Novel Vip3 Toxins and Methods of Use
FILE REFERENCE: 60163PCT
                                                                                                                                                               APPLICANT: Kramer, Vance
TITLE OF INVENTION: Novel Vip3 Toxins and Methods of Use
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CURRENT APPLICATION NUMBER: US/10/505,315
CURRENT FILING DATE: 2004-08-19
PRIOR APPLICATION NUMBER: US 60/362250
PRIOR FILING DATE: 2002-03-06
NUMBER OF SEQ ID NOS: 33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME/KEY: misc_feature
LOCATION: (1)...(787)
OTHER INFORMATION: Hybrid Vip3A-B Toxin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM: Artificial Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH: 787
                                                                                                                                                                                                                                                                                                                                                                                                                                             262 KTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLADIDYT 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 261 KTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLADIDYT 303
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100.0%; Pred. No. 5.9e-32;
ative 0; Mismatches 0;
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APPLICANT: Kramer, Vance
TITLE OF INVENTION: Novel Vip3 Toxins and Methods of Use
FILE REFERENCE: 60163PCT
CURRENT APPLICATION NUMBER: US/10/505,315
CURRENT FILING DATE: 2004-08-19
PRIOR APPLICATION NUMBER: US 60/362250
PRIOR FILING DATE: 2002-03-06
NUMBER OF SEQ ID NOS: 33
SOFTWARE: PatentIn version 3.2
SEQ ID NO 32
LENGTH: 788
                                                                                                                                                                                                                                                                                                                                                                 RESULT 13
US-09-850-351A-6
; Sequence 6, Application US/09850351A
; Patent No. US20020100080A1
; GENERAL INFORMATION;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; NAME/KEY: MISC_FEATURE
; LOCATION: (1)...(788)
; OTHER INFORMATION: Vip3C-12168 toxin
US-10-505-315-32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 12
US-10-505-315-32
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
Matches 43; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 32, Application US/10505315
Publication No. US20050210545A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
Matches 43; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Syngenta Participations APPLICANT: Shen, Zhicheng
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM: Bacillus thuringiensis FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM: Artificial sequence FEATURE:
                                             NUMBER OF SEQUENCES: 144
CORRESPONDENCE ADDRESS:
ADDRESSEE: Saliwanchik, Lloyd & Saliwanchik
STREET: 2421 N.W. 41st Street, Suite A-1
                                                                                                                             Morrill, George
TITLE OF INVENTION: No. US20020100080A1el Pesticidal Toxins and Nucleotide
Sequences Which Encode These Toxins
                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Feitelson,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 262
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Shotkoski, Frank
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Dullum, Charles Joseph
Muller-Cohn, Judy
Stamp, Lisa
Morrill, George
                                                                                                                                                                                                                                                                      Stockhoff, Brian A.
Schmeits, James
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Narva, Kenneth E.
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100.0%; Pred. No.
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5.9e-32;
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. 5.9e-32;
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US-10-099-285-80
; Sequence 80, Application US/10099285
; Publication No. US20030105319A1
; GENERAL INFORMATION:
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COUNTY 32606
ZIP: 32606
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 09/073,898
FILING DATE: 06-MAY-1998
APPLICATION NUMBER: US 08/960,780
FILING DATE: 30-OCT-1997
APPLICATION NUMBER: US 60/029,848
FILING DATE: 30-OCT-1996
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Match 5.5%; So Local Similarity 100.0%; F
                                                                                                                                                                                                                CORRESPONDENCE ADDRESS:
ADDRESSEE: Saliwanchik, Lloyd & Saliwanchik
STREET: 2421 N.W. 418t Street, Suite A-1
                                                                                                                                                                                                                                                                                Muller-Cohn, Judy
TITLE OF INVENTION: Toxins Active Against Pests
NUMBER OF SEQUENCES: 105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER: IBM PC compatible
operating system: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/850,351A
FILING DATE: 07-May-2001
                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STRANDEDNESS: single TOPOLOGY: linear MOLECULE TYPE: protein ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE CHARACTERISTICS:
LENGTH: 789 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME: Sanders, Jay M.
REGISTRATION NUMBER: 39,355
REFERENCE/DOCKET NUMBER: MA-708CD1
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        261 KTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLADIDYT 303
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                                                                                                                                                                                       CITY: Gainesville
STATE: Florida
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEPHONE: 352-375-8100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CLASSIFICATION: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ZIP: 32606-6669
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STATE: FL
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                                                                                                                                                                                                                                                                                                                                                             Wicker, Carol
Narva, Kenneth E.
Walz, Michelle
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Score 43; DB 3; L; Pred. No. 5.9e-32; Mismatches

Length 789; Indels

<u>.</u>

Gaps

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H. Ernest

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RESULT 15
US-10-099-285-82
; Sequence 82, Application US/10099285
; Publication No. US20030105319A1
; GENERAL INFORMATION:
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Best Local Similarity
Watches 43; Conserve
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TELECOMMUNICATION INFORMATION:
TELEPHONE: (352) 375-8100
TELEFAR: (352) 372-5800
INFORMATION FOR SEQ ID NO: 80:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                       SOFTWARE: Patentin
CURRENT APPLICATION NUMBER: US/10/099,285
                                                                                                                                                                                                                                                                                                                                                                                                                                          Muller-Cohn, Judy
TITLE OF INVENTION: Toxins Active Against Pests
NUMBER OF SEQUENCES: 105
                                                                                                                  FILING DATE: 15-Mar-2002
CLASSIFICATION: <Unknown>
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                CORRESPONDENCE ADDRESS:
ADDRESSEE: Saliwanchik, Lloyd & Saliwanchik
STREET: 2421 N.W. 41st Street, Suite A-1
CITY: Gainesville
STATE: Florida
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATTORNEY/AGENT INFORMATION:
NAME: Sanders, Jay M.
REGISTRATION NUMBER: 39,355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION DATA:
APPLICATION NUMBER: 09/002,285
FILING DATE: «Unknown»
APPLICATION NUMBER: US 08/886,615
FILING DATE: 1-JUL-1997
APPLICATION NUMBER: US 08/674,002
FILING DATE: 1-JUL-1996
                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Schnepf, H. Ernest
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COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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FILING DATE: 15-Mar-2002
CLASSIFICATION: <Unknown>
                                                                                                                                                                                                                                                                                                                                COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5.5%; Score 43; DB 4; Le ilarity 100.0%; Pred. No. 5.9e-32; Conservative 0; Mismatches 0;
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Narva, Kenneth E.
Walz, Michelle
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Search completed: May 15, 2006, 21:00:13 Job time : 171 secs
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Best Local Similarity 100.0%; Pred. No. 5.9e-32;
Matches 43; Conservative 0; Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                        ATTORNEY/AGENT INFORMATION:
NAME: Sanders, Jay M.
REGISTRATION NUMBER: 39,355
REFERENCE/DOCKET NUMBER: MA-701C2
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                TOPOLOGY: linear
MOLECULE TYPE: protein
SEQUENCE DESCRIPTION: SEQ ID NO: 82:
                                                                                                                                                                                                                                                                                                                            SEQUENCE CHARACTERISTICS:
LENGTH: 789 amino acids
TYPE: amino acid
                                                                        261 KTSGSEVGNVYNFLIVLTALQAKAFLTLTTCRKLLGLADIDYT 303
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Result
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Perfect score:
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Maximum DB
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    No. is the number of results predicted by chance to have a
re greater than or equal to the score of the result being printed,
is derived by analysis of the total score distribution.

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Published Applications AA New:*

1: /SIDSS/ptodata/1/pubpaa/USO8 NEW PUB.pep1:*

2: /SIDSS/ptodata/1/pubpaa/USO6 NEW PUB.pep:*

3: /SIDSS/ptodata/1/pubpaa/USO8 NEW PUB.pep:*

4: /SIDSS/ptodata/1/pubpaa/USO8 NEW PUB.pep:*

5: /SIDSS/ptodata/1/pubpaa/USO9 NEW PUB.pep:*

6: /SIDSS/ptodata/1/pubpaa/USO9 NEW PUB.pep:*

7: /SIDSS/ptodata/1/pubpaa/USO9 NEW PUB.pep:*

8: /SIDSS/ptodata/1/pubpaa/USO9 NEW PUB.pep:*

9: /SIDSS/ptodata/1/pubpaa/USO1 NEW PUB.pep:*

9: /SIDSS/ptodata/1/pubpaa/USO1 NEW PUB.pep:*

10: /SIDSS/ptodata/1/pubpaa/USO1 NEW PUB.pep:*

11: /SIDSS/ptodata/1/pubpaa/USO1 NEW PUB.pep:*

12: /SIDSS/ptodata/1/pubpaa/USO1 NEW PUB.pep:*
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Gapop 60.0 , Gapext 60.0
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786
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                    MQKNNKLSVKALPSFIDYFN......VELSRASSRGVINFGDFSIK 786
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 GenCore version 5.1.8 (c) 1993 - 2006 Biocceleration Ltd
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                                                                                                                       11 US-11-087-099-12090

11 US-11-096-568A-5256

11 US-11-188-298-3226

11 US-11-264-096-2150

11 US-11-188-298-13227

9 US-10-873-528-124

11 US-11-188-298-8191

11 US-11-198-298-8191

11 US-11-096-568A-3918

11 US-11-096-568A-6604

11 US-11-188-298-2559

11 US-11-188-298-2559

11 US-11-188-298-6674
US-10-196-749-54

US-10-194-487-54

US-10-195-883-54

US-10-195-888-54

US-10-195-889-54

US-10-195-889-54

US-10-125-161A-137

US-11-152-811-4
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                           Sequence 124, App
Sequence 3918, App
Sequence 3918, App
Sequence 604, App
Sequence 462, App
Sequence 253, App
Sequence 254, App
Sequence 54, Appl
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Sequence 5256, Ap
Sequence 3226, Ap
Sequence 2150, Ap
Sequence 13227, A
Sequence 137,
Sequence 4,
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45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22
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US-11-052-554A-111	US-11-087-099-6188	US-11-087-099-5526	US-11-052-554A-116	US-10-493-909-51	US-11-188-298-15409	US-11-087-099-5335	US-11-096-568A-27155	US-11-087-099-4536	US-10-661-966-18	US-11-096-568A-27156	US-11-096-568A-27157	US-10-491-468-34	US-10-491-468-29	US-11-188-298-7595	US-11-232-805-44	US-11-232-805-46	US-10-204-639-61	US-11-188-298-20698	US-11-188-298-8092	US-11-074-176-48	US-11-096-568A-3789	US-11-194-246-294	US-11-264-096-2152
Sequence 111, App	6188,	5526,	Sequence 116, App	Sequence 51, Appl	Sequence 15409, A	5335,	27155	Sequence 4536, Ap	Sequence 18, Appl	Sequence 27156, A	Sequence 27157, A	Sequence 34, Appl	29, Apj	7599	44,	Sequence 46, Appl	Sequence 61, Appl	20698,	8092	Sequence 48, Appl	3789,	294, /	Sequence 2152, Ap
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## ALIGNMENTS

RESULT 1 US-10-703-799B-54

GENERAL INFORMATION:

Application US/10703799B

APPLICANT: Pompejus, Markus APPLICANT: Kroger, Burkhard

APPLICANT: Schler, Oskar

APPLICANT: Lee, Heung-Shick
APPLICANT: Lee, Heung-Shick
APPLICANT: Lee, Heung-Shick
APPLICANT: Lee, Heung-Shick
APPLICANT: Lee, Heung-Shick
APPLICANT: Lee, Heung-Shick
APPLICANT: Lee, Heung-Shick
APPLICANT: Kim, Hyung-Joon
TITLE OF INVENTION: CORYNEBACTERIUM GLUTAMICUM GENES ENCODING STRESS,
ITITLE OF INVENTION: RESISTANCE AND TOLERANCE PROTEINS
FILE REFERENCE: BGI-124CPCN
CURRENT FILING DATE: 1020-10-07
PRIOR APPLICATION NUMBER: 09/603,208
PRIOR FILING DATE: 1000-06-23
PRIOR APPLICATION NUMBER: 60/142692
PRIOR APPLICATION NUMBER: 60/142692
PRIOR APPLICATION NUMBER: 60/142692
PRIOR APPLICATION NUMBER: 60/142692
PRIOR APPLICATION NUMBER: 60/142692
PRIOR APPLICATION NUMBER: DE 19930429.7
PRIOR APPLICATION NUMBER: DE 1993143.6
PRIOR FILING DATE: 1999-07-08
PRIOR APPLICATION NUMBER: DE 19931413.6
PRIOR APPLICATION NUMBER: DE 19931457.8
PRIOR APPLICATION NUMBER: DE 19931457.8
PRIOR APPLICATION NUMBER: DE 19931457.8
PRIOR APPLICATION NUMBER: DE 1993129.0
PRIOR FILING DATE: 1999-07-08
PRIOR FILING DATE: 1999-07-08
PRIOR APPLICATION NUMBER: DE 1993129.0
PRIOR APPLICATION NUMBER: DE 1993129.0
PRIOR APPLICATION NUMBER: DE 1993129.0
PRIOR APPLICATION NUMBER: DE 1993129.0
PRIOR APPLICATION NUMBER: DE 1993129.0
PRIOR APPLICATION NUMBER: DE 1993129.0
PRIOR APPLICATION NUMBER: DE 1993129.0 ; LENGTH: 111 TYPE: PRT ; ORGANISM: Corynebacterium glutamicum US-10-703-799B-54 Remaining Prior Application NUMBER OF SEQ ID NOS: 306 SEQ ID NO 54 PRIOR FILING DATE: 1993-07. PRIOR APPLICATION NUMBER: DE 19932230.9 PRIOR FILING DATE: 1999-07-09

PRIOR FILING DATE: 1999-07-09 APPLICANT: Hartwig data removed -See File Wrapper or PALM

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RESULT 4
US-11-188-298-3226
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Best Local Similarity 1
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; LOCATION: (1)..(64)
; OTHER INFORMATION: unsure at all Xaa locations
US-11-087-099-12090
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US-11-087-099-12090
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TITLE OF INVENTION: Genes and Uses for Plant Improvement
FILE REFERENCE: 38-21(5)450)B BP
CURRENT APPLICATION NUMBER: US/11/087,099
CURRENT FILING DATE: 2005-03-22
NUMBER OF SEQ ID NOS: 12464
SEQ ID NO 12090
                                                                                                                                                                                                                                                                                               SEQ ID NO 5256
LENGTH: 88
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Best Local :
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Best Local Similarity 100.0%; F
Matches 8; Conservative 0;
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                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION: Sequence-Determined DNA Fragments and Corresponding Polypeptides TITLE OF INVENTION: Therby FILE REFERENCE: 2750-1592PUS2 CURRENT APPLICATION NUMBER: US/11/096,560A CURRENT FILING DATE: 2005-04-01 NUMBER OF SEQ ID NOS: 34471
                                                                                                                                                                                                NAME/KEY: misc feature
LOCATION: (1)...(88)
OTHER INFORMATION: Ceres Seq. ID no. 14307700
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ORGANISM: Glycine max
FEATURE:
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ORGANISM: Zea mays
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Pred. No.
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RESULT 6
US-11-188-298-13227
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FILE REFERENCE: PF546D1
CURRENT APPLICATION NUMBER: US/11/264,096
CURRENT FILING DATE: 2005-11-02
PRIOR APPLICATION NUMBER: 09/833,245
PRIOR TILING DATE: 2000-04-12
PRIOR APPLICATION NUMBER: 60/229, 358
PRIOR APPLICATION NUMBER: 60/229, 358
PRIOR FILING DATE: 2000-04-12
PRIOR FILING DATE: 2000-012-6, 931
PRIOR REPLICATION NUMBER: 60/129, 384
PRIOR APPLICATION NUMBER: 60/199, 384
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Sequence 13227, Application US/11188298
Publication No. US20060075522A1
GENERAL INFORMATION:
APPLICANT: Abad, Mark S. et al.
TITLE OF INVENTION: GENES AND USES FOR PLANT IMPROVEMENT FILE REFERENCE: 38-21 (53452)B
CURRENT APPLICATION NUMBER: US/11/188,298
CURRENT FILING DATE: 2005-07-22
PRIOR APPLICATION NUMBER: 60/592,978
PRIOR FILING DATE: 2004-07-31
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TITLE OF INVENTION: GENES AND USES FOR PLANT IMPROVEMENT
FILE REFERENCE: 38-21(53452)B
CURRENT APPLICATION NUMBER: US/11/188,298
CURRENT FILING DATE: 2005-07-22
PRIOR APPLICATION NUMBER: 60/592,978
PRIOR APPLICATION NUMBER: 60/592,978
PRIOR FILING DATE: 2004-07-31
NUMBER OF SEQ ID NOS: 22569
SEQ ID NO 3226
LENGTH: 147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQ ID NO 2150
LENGTH: 152
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR FILING DATE: 2000-04-25
NUMBER OF SEQ ID NOS: 2267
SOFTWARE: PatentIn Ver. 2.1
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ORGANISM: Glycine max
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Local Similarity 100.0%;
nes 7; Conservative
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Local Similarity 100.0%; F
hes 7; Conservative 0;
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Pred. No.
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o. 56;
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5. 58;
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FILE REFERENCE: PWC/P21129WO
CURRENT APPLICATION NUMBER: US/10/873,528
CURRENT FILING DATE: 2004-06-23
PRIOR APPLICATION NUMBER: US/09/769,787
PRIOR FILING DATE: 2001-01-26
PRIOR FILING DATE: 2001-01-26
PRIOR FILING DATE: 1998-03-27
PRIOR FILING DATE: 1998-03-27
PRIOR APPLICATION NUMBER: US 60/125164
PRIOR APPLICATION NUMBER: US 60/125164
PRIOR FILING DATE: 1999-03-19
PRIOR FILING DATE: 1999-03-19
PRIOR FILING DATE: 1999-03-19
PRIOR PRIOR PRIOR DATE: 1999-03-19
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PRIOR PRIOR DATE: 1999-03-19
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PRIOR PRIOR DATE: 1999-03-19
PRIOR PRIOR DATE: 1999-03-19
PRIOR PRIOR DATE: 1999-03-19
PRIOR DATE: 1999-03-19
; FEATURE:
; NAME/KEY: unsure
; LOCATION: (1)..(176)
; OTHER INFORMATION: unsure at all Xaa locations
US-11-188-298-8191
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US-11-188-298-13227
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                                                                                                                                                                    TITLE OF INVENTION: GENES AND USES FOR PLANT IMPROVEMENT FILE REFERENCE: 38-21(53452)B

CURRENT APPLICATION NUMBER: US/11/188,298

CURRENT FILING DATE: 2005-07-22

PRIOR APPLICATION NUMBER: 60/592,978

PRIOR FILING DATE: 2004-07-31

NUMBER OF SEQ ID NOS: 22569

SEQ ID NO 8191
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Matches
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Publication No. US20060075522A1
GENERAL INFORMATION:
APPLICANT: Abad, Mark S. et al.
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SEQ ID NO 13227
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Gilbert, Christophe FG
APPLICANT: Hansbro, Philip M
TITLE OF INVENTION: Proteins
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Microbial Technics Limited
                                                                                                                ORGANISM: Glycine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE:
                                                                                                                                                               LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ENGTH: 160
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          / Match 0.9%; Score 7; DB:
Local Similarity 100.0%; Pred. No. 60
198 7; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  563 TGGVNGT 569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  382 IDKDSLS 388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          29 IDKDSLS 35
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larity 100.0%; Pred. No.
Conservative 0; Mismatcl
                                                                                                                   max
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; TYPE: PRT
; ORGANISM: Glycine max
; FRATURE:
; FRATURE:
; NAME/KEY: misc_feature
; LOCATION: (1)..(199)
; OTHER INFORMATION: Ceres Seq. II
US-11-096-568A-3918
                                                                                                                                                                                                                                                                                                                                                                                 RESULT 10
US-11-232-805-69
; Sequence 69, Application US/11232805
; Publication NO. US20060073508A1
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                               S
                                                                                                                                      ; ORGANISM: Homo sapiens
US-11-232-805-69
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                                                                                                                                                                       NUMBER OF SEQ ID NOS: 69
SOFTWARE: PatentIn version 3.2
SEQ ID NO 69
LENGTH: 206
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Publication No. US20060048240A1
GENERAL INFORMATION:

APPLICANT: Alexandrov, Nickolai et al.
TITLE OF INVENTION: Sequence-Determined DNA Fragments and Corresponding Polypeptides
TITLE OF INVENTION: Therby
FILE REFERENCE: 2750-1952PUS2
CURRENT APPLICATION NUMBER: US/11/096,568A
CURRENT FILING DATE: 2005-04-01
NUMBER OF SEQ ID NOS: 34471
SEQ ID NO 3918
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Best Local S
Matches 7
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                                                                     Matches
                                                                                                   Query Match
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                                                                                                                                                                                                                                                                                                APPLICANT: Small, Kersten M.
APPLICANT: Liggett, Stephen
TITLE OF INVENTION: Alpha-2 Adrenergic Receptor Polymorphisms
FILE REFERENCE: 10738-42D
                                                                                                                                                                                                                                                             CURRENT APPLICATION NUMBER: US/11/232,805
CURRENT FILING DATE: 2005-09-22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LENGTH: 199
                                                                Local Similarity nes 7; Conserv
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141 LSRASSR 147
                               769 LSRASSR 775
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Similarity 100.0%; Pred. No. 75
7; Conservative 0; Mismatches
                                                                0.9%; Score 7; DB 11; ilarity 100.0%; Pred. No. 77; Conservative 0; Mismatches
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100.0%; Pred. No. 66
ative 0; Mismatches
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o. 66;
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US-11-096-568A-6604; Sequence 6604, Application US/11096568A; Publication No. US20060048240A1

RESULT 11

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; LOCATION: (1)..(225)
; OTHER INFORMATION: Ceres Seq. ID no. 14315939
US-11-096-568A-6604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-11-045-004-462
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APPLICANT: Alexandroy, Nickolai et al.
TITLE OF INVENTION: Sequence-Determined DNA Fragments and Corresponding Polypeptides
TITLE OF INVENTION: Therby
FILE REFERENCE: 2750-1592PUS2
CURRENT APPLICATION NUMBER: US/11/096,568A
CURRENT FILING DATE: 2005-04-01
NUMBER OF SEG ID NOS: 34471
SEQ ID NO 6604
LENGTH: 225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 462, A Publication No.
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Best Local
                                                                                                        APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: BUCHRIESER, CARMEN
APPLICANT: FRANGEUL, LIONEL
APPLICANT: COUVE, ELISABETH
                                                                                                                                                            APPLICANT
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ORGANISM: Glycine max
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          176 EKFEALT 182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               180 EKFEALT 186
     INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity 100.0%; 17; Conservative 0;
                                                                                                                                                                     BERCHE, PATRICK
CHARBIT, ALAIN
DURANT, LIONEL
PEREZ-DIAZ, JOSE-CLAUDIO
BAQUERO, FERNANDO
GARCIA DEL PORTILLO, FRANC
                 HAUF, JORG
ROSE, MATTHIAS
VOSS, HAMUT
                                                                                                                                                                                                                                                                                                                                                                                                                                                    COSSART, PASCALE
DANIELS, JUSTIN
GOEBEI, WERNER
KREFT, JURGEN
                                                             WEHLAND, JURGEN
KARST, UWE
ENTIAN, KARL-DIETER
                                                                                                                                                                                                                                                                                           AMEND, ALEXANDRA
CHAKRABORTY, TRINAD
DOMANN, EUGEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NEDJARI, HAFED
GLASER, PHILIPPE
KUNST, FRANCK
                                                                                                                      MADUENIO, ENCARNA
PABLOS, BETRIZ DE
                                                                                                                                                        GOMEZ-LOPEZ, NURIA
                                                                                                                                                                                                                                                                                                                                                                 DOMINGUEZ-BERNAL, GUSTAVO GARRIDO-GARCIA, PATRICIA
                                                                                                                                                                                                                                                                                                                                                                                                VAZQUEZ-BOLAND, ANTONIO
                                                                                                                                                                                                                                                                                                                                                                                                                                       KOHN,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DUSSURGET, OLIVIER CHETOUANI, FARID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FSIHI, HAFIDA
DEHOUX, PIERRE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RUSNIOK,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Application US/11045004 o. US20060078901A1
                                                                                                                                                                                                                                                                                                                                              TIERREZ-MARTINEZ, ALBERTO
                                                                                                                                                                                                                                                                               THORSTEN
                                                                                                                                                                                                                                                                                                                                                                                                                                      MICHAEL
LISTERIA MONOCYTOGENES GENOME, POLYPEPTIDES AND USES
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100.0%; Pred. No. 84;
1ve 0; Mismatches
                                                                                                                                                                            FRANCISCO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          <u>.</u>.
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GENERAL INFORMATION:
APPLICANT: Abad, Mark S. et al.
TITLE OF INVENTION: GENES AND USES FOR PLANT
FILE REFERENCE: 38-21(53452)B
CURRENT APPLICATION NUMBER: US/11/188,298
CURRENT FILING DATE: 2005-07-22
PRIOR APPLICATION NUMBER: 60/592,978
PRIOR FILING DATE: 2004-07-31
NUMBER OF SEQ ID NOS: 22569
SEQ ID NO 6674
LENGTH: 302
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Best Local Similarity
Thes 7; Conserve
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                                                                                                                                                                                                                                                                      US-11-188-298-6674
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; ORGANISM: Pseudomonas aeruginosa PAOI
US-11-188-298-2559
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CURRENT FILING DATE: 2005-01-28
PRIOR APPLICATION NUMBER: 10/637,657
PRIOR FILING DATE: 2003-08-11
PRIOR APPLICATION NUMBER: 10/257,023
PRIOR FILING DATE: 2002-10-08
PRIOR APPLICATION NUMBER: PCT/FR01/01118
PRIOR APPLICATION NUMBER: PCT/FR01/01118
PRIOR PILING DATE: 2001-04-11
PRIOR APPLICATION NUMBER: PRIOR 629
PRIOR FILING DATE: 2000-04-11
PRIOR FILING DATE: 2000-04-11
PRIOR FILING DATE: 2000-04-11
PRIOR FILING DATE: 2000-04-11
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SEQ ID NO 2559
LENGTH: 302
TYPE: PRT
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APPLICANT: Abad, Mark S. et al.
TITLE OF INVENTION: GENES AND U
FILE REFERENCE: 38-21(53452)B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOFTWARE: Pa
                                                                                                                                                                                                                              Sequence 6674, Application US/11188298 Publication No. US20060075522A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 2559, Application US/11188298 Publication No. US20060075522A1
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Best Local Similarity
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CURRENT FILING DATE: 2005-07-22
PRIOR APPLICATION NUMBER: 60/592,978
PRIOR FILING DATE: 2004-07-31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FILE REFERENCE: 05394.0018-02
TYPE: PRT
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100.0%; Pred. No. 1.1
ive 0; Mismatches
                                                                                                                                                                     AND USES FOR PLANT IMPROVEMENT
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NO. 1.1e+02;
0;
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ORGANISM: Pseudomonas aeruginosa UCBPP-PA14

US-11-188-298-6674

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APPLICANT: GOUGHI, MUSTER
APPLICANT: Gurney, Austin L.
APPLICANT: Pan, James
APPLICANT: Pan, James
APPLICANT: Watanabe, Colin K.
APPLICANT: Watanabe, Colin K.
APPLICANT: Watanabe, Colin K.
APPLICANT: Wood, William I.
CURRENT APPLICATION NUMBER: US/10/196,749
CURRENT APPLICATION NUMBER: 10/052586
PRIOR APPLICATION NUMBER: 60/05263
PRIOR APPLICATION NUMBER: 60/05266
PRIOR APPLICATION NUMBER: 60/05266
PRIOR APPLICATION NUMBER: 60/05250
PRIOR APPLICATION NUMBER: 60/06250
PRIOR APPLICATION NUMBER: 60/063120
PRIOR APPLICATION NUMBER: 60/063120
PRIOR APPLICATION NUMBER: 60/063120
PRIOR APPLICATION NUMBER: 60/063120
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; NAME/KEY: unsure
; LOCATION: 233
; OTHER INFORMATION: unknown amino acid
US-10-196-749-54
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US-10-196-749-54
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PRIOR FILING DATE: 1997-10-28
PRIOR APPLICATION NUMBER: 60/063544
PRIOR FILING DATE: 1997-10-28
Prior Application data removed - See File Wrapper or PALM.
NUMBER OF SEQ ID NOS: 612
SEQ ID NO 54
                                                                                                Query Match 0.9%; Score 7; DB 8; Length 316; Best Local Similarity 100.0%; Pred. No. 1.2e+02; Matches 7; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 54, Application US/10196749
Publication No. US20060094864A1
GENERAL INFORMATION:
APPLICANT: Baker, Kevin P.
APPLICANT: Chen, Jian
APPLICANT: Desnoyers, Luc
APPLICANT: Goddard, Audrey
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 0.9%; Score 7; DB 11; Length 302; Best Local Similarity 100.0%; Pred. No. 1.1e+02; Matches 7; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR APPLICATION NUMBER: 60/063486
PRIOR FILING DATE: 1997-10-21
PRIOR APPLICATION NUMBER: 60/063540
PRIOR FILING DATE: 1997-10-28
                                                                                                                                                                                                                                                                                                                                   TYPE: PRT
ORGANISM: Homo Sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: 60/063121 FILING DATE: 1997-10-24
  98
                                                    73 DLLAQGN 79
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DLLAQGN 104
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Search completed: May 15, 2006, 21:00:48 Job time : 31 secs

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